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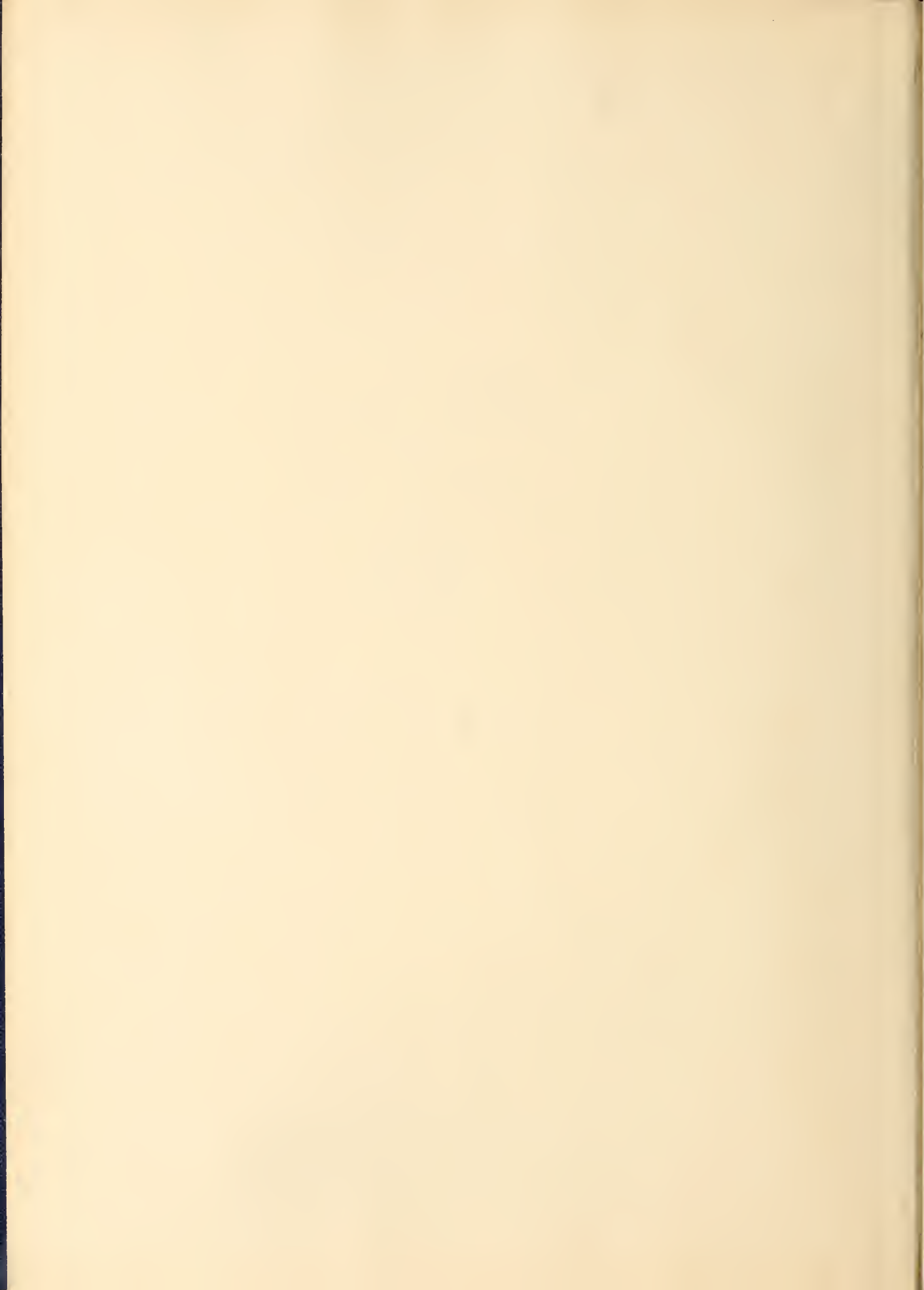


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THE JOURNAL

OF THE

Medical Association of Georgia



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VOL. VI.

AUGUSTA, GA., MAY, 1916.

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THE JOURNAL

OF THE

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W. C. LYLE, M.D., Editor, Augusta, Ga.

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A REVIEW OF MEDICAL AFFAIRS IN GEORGIA.

(President's Annual Address.)

Wm. S. Goldsmith, M.D., Atlanta, Ga.

I must again acknowledge my deep appreciation of the honor conferred upon me one year ago, when I was unanimously chosen as your presiding officer. The duties of the President are not exacting; on the contrary, the pleasant relations between the officers and members and the hospitality extended me on the occasion of numerous visits to the District Societies, impressed me with the loyal fraternalism existing in every portion of the state.

It is, therefore, fitting that I should at this time express my thanks to the officers and members of the First, Eighth, Ninth and Twelfth District Societies, whose cordial welcome will always be cherished by me. The Third and Sixth District Societies also

extended personal and official invitations to meet with them, but professional engagements prevented their acceptance. The speaker also desires to thank the members of the various committees, the Councillors and the Secretary-Treasurer, Dr. W. C. Lyle, for their earnest support during the past year.

Close observation of the organization and work of the subsidiary societies, county and district, forces a problem upon us which must be seriously considered. The problem is what is the future of the County Societies? Is the slow and apparently sure dissolution of these vital important institutions traceable to causes that can be remedied?

Is this lack of interest due to your President, or Secretary, or Councillors, or to the individual indifference of the members of the County Society. Some means must be devised, a new era of hard and enthusiastic work must be initiated, by which the old spirit of co-operation and devotion to the common cause of medical progress is revived and pushed forward and onward until our hopes and ambitions are realized.

I sincerely trust that my successor in office may be so imbued with this spirit and

surround himself with equally enthusiastic co-laborers, that a year hence great strides will have been made along these lines.

As to the District Societies there is nothing but gratifying praise due them. The societies visited during the past year were a distinct revelation in many ways. In point of attendance, the number and excellence of papers presented, and the interesting and profitable discussions which followed, were easily the equal of a program offered by the State Association.

The officers and members were alert and business-like in the conduct of the session, and it was a pleasure to note that in not a single instance was an essayist absent when his name was called.

I was particularly impressed at a meeting in a little hamlet of Northeast Georgia, where the afternoon exercises were devoted to a clinical session. A surgeon of that section, of wide and deserved reputation, demonstrated a number of splendid cases, which brought out a spirited discussion, and proved conclusively to my mind that good surgery was being done there, and that this intelligent community not only expected, but demanded, that the local men must do good surgery. These clinical sessions, both medical and surgical, should be held by every District Society. They form the nucleus of a post-graduate course, which was the study and dream of that great organizer and lecturer, Dr. J. N. McCormick.

It is my experience, however, that frequently the real intent and purpose of the District meetings are interfered with, if not seriously jeopardized, by the generous invitations to too many specialists from the cities. The city doctor is, of course, always entertaining, and nearly always a little bit selfish. In these instances it is apparent that the local talent have little chance or desire to bring forward interesting cases, small in number, probably, but just as valuable to them from a clinical and scientific standpoint.

In dismissing these matters of local interest, I must emphasize my profound conviction that the District Societies possess the bone and sinew of the parent organization; that these twelve institutions have in their hands the real medical virility of the state; and that they must be fostered with every care and surrounded with becoming recognition and encouragement.

In rendering an account of my stewardship, a review of matters touching upon state legislation is brought to your attention. In doing so, much praise must be accorded to Dr. L. C. Allen, a member of the committee on legislation, and a member of the general assembly from Jackson County. Dr. Allen has safeguarded the interest of medicine in every way possible, and his large influence in the House of Representatives made his appointment on this committee singularly appropriate.

The passage of the medical practice act a few years ago has placed in the hands of the proper authorities an instrument of inestimable value to the profession, in that we now possess an almost impregnable wall of defense and a power of influence of much value. There is, however, one outstanding blot upon our legislative record that should be corrected at the earliest possible moment. I have reference to the vital statistics bill, passed in 1914, and which did not receive a single dollar for its establishment and maintenance.

The legislature of 1915 also failed to include in the appropriations bill any provision for this Health act. It was expected that the State Board of Health would make the request and appeal to the proper committee for funds sufficient to put in operation this very desirable measure, but they failed to do so.

It is my hope that in the discussion of this address that some plan may be enacted by which this law will be enforced, and bring into effect this year this vital statistics legislation. The profession of the state is the target of undoubted merited criticism for withholding united support in favor of a law of such importance to every citizen and community in the Commonwealth.

There are three other measures pending before the legislature, namely, the Optometry bill, the amendment to the Osteopathy act looking to the regulation of the non-drug practitioners in the state, and the bill introduced by Dr. L. C. Allen, enlarging the powers and defining the duties of the State Health Commissioner, the office now known as the Secretary of the State Board of Health. These bills have been favorably reported by the committees of the House and Senate, and their passage at the coming meeting of the legislature is expected. In concluding this address, I take this opportunity of directing your attention to a condition existing in our

state, which must be met firmly, squarely and with the unalterable determination to stamp out forever. I refer to the practice known as "fee-splitting," or division of fees. It is a great satisfaction to feel that the "trail of the serpent" is located in a comparatively small number of places in the state. But in the cities where this corrupt and pernicious system is found, its demoralizing and ruinous influence can be felt by all clean and hard-working physicians, especially those engaged in surgery and its allied branches.

The division of a medical or surgical fee is an act of cunning stealth, which can not, by any ingenious pretext or arrangement, be satisfactorily explained to the person paying the bill. It is the essence of low-grade double-dealing by two men, one, of supposed superior surgical attainments, and the other, usually the trusted personal friend and family medical adviser.

Does the ignorant, but confiding, patient in the town or country realize that when an operation is necessary, or suggested, that the unusual skill of a certain surgeon is emphasized, that this paid emissary with seeming reluctance, consents to accompany the patient, smugly intimating that he can arrange the fee with his surgical friend; and, after all these demonstrations of friendship, find that he is the financial victim of these two men.

Again, the avenues are wide open for the corruption of the young men just entering upon professional life. The weak and struggling young practitioners are sometimes easy victims of the system, and lend ready ear to the specious arguments relative to unjust compensation, gratuitous professional service, and many other unfair and unjust accusations, chargeable to the reputable consultant.

The most serious offense of fee-splitting is the tendency to engage in the criminal act of performing unnecessary and unjustifiable operations. The man who corrals the sick people for the purpose of sale, and finding it profitable, will compound his iniquity by bandying about in this surgical mart the medical ills which can be relieved only by the hand of his fellow grafter.

The publicity concerning fee-splitting during the past few years, has been such that the daily press and the monthly magazines have flaunted it as news matter of great

journalistic merit. The abuses of this system has reached the point where the legislatures of great and progressive states have, themselves, forced the issue, and unanimously passed laws prohibiting the division of fees. The states of Alabama, Ohio, Iowa, Wisconsin, Michigan and Nebraska, have on their statute books laws relating to this subject.

The legislature of our sister state of Alabama during the session of 1915, and at the behest of one man, Dr. R. S. Hill, of Montgomery, the then president of the Medical Association of Alabama, unanimously passed a bill declaring it a misdemeanor to be guilty of selling or buying a patient. In order that you may understand the serious situation and the great necessity for eradicating this evil in Georgia, I am asking your indulgence for a moment that I may read into this address the Alabama law.

That hereafter any physician or surgeon, or any person who carries, sends, or is in any manner instrumental in causing a patient to go to another physician or surgeon for a surgical operation, or advice as to, or treatment of, any physical or mental disease, injury or ailment, and receive therefor from such other physician or surgeon, or who has any agreement or understanding with such physician or surgeon to receive therefor, any compensation, favor or thing of value whatsoever, from such physician or surgeon without the knowledge and consent of the patient, shall be guilty of selling a patient within the meaning of this act, and any physician or surgeon or any person, who knowingly receives any patient so carried, sent or caused to go to him for a surgical operation, or advice as to, or treatment of any physical or mental disease, injury or ailment, under such agreement, or who pays, or allows any compensation, favor or thing of value whatsoever therefor to such physician or surgeon, so sending or carrying such patient to him without the knowledge and consent of the patient, shall be guilty of buying a patient within the meaning of this act.

Section 2. That any person who buys or sells a patient within the meaning of this act, as defined in the next preceding section hereof, shall be guilty of a misdemeanor, and upon conviction, shall be fined for the first offense not less than twenty-five dollars, nor more than five hundred dollars, and for the second, or any subsequent offense, shall be

fined not less than five hundred dollars, nor more than one thousand dollars, and may, also at the discretion of the court or jury trying the case be imprisoned in the penitentiary for not less than one year, nor more than five years; and in addition thereto, his license to practice medicine or surgery in this state shall be by the court trying the case cancelled and annulled, and it shall ever thereafter be unlawful for such person to practice medicine or surgery in this state.

Section 3. That all laws and parts of law in conflict with the provision of this act, whether local, special, or general, are hereby repealed.

I fear that there are amongst us some who have fallen upon evil ways and become infected with the germ of a purely mercenary valuation of the afflicted and diseased, and it is to them, and for them, that we point the way to a full restoration of their moral obligation to their associates, and the elevation and safeguarding of a high professional standard in every community in the state.

I, therefore, recommend that the committee on legislation be instructed to draft a bill, outlining the abuses of this practice and covering the remedies for this obnoxious system, and submit it to the next meeting of the legislature. Legislation may not at once correct the situation, but publicity and education of the people will automatically complete the reformation and at last wipe this stain from the medical reputation of Georgia.

Finally, gentlemen, ever preserve in your memory that the Medical Association of Georgia has an honored history of nearly seventy years of unswerving idealism in medicine, her destiny jealously guarded and guided by those teachers and moulders of men, Calhoun, Todd, Westmoreland, Griggs, Elliot, Eve, Dugas, Campbell and a host of distinguished patriots who have long passed away.

In those golden days, no legislation was needed to inculcate morals into our physicians and surgeons; the ethics of gentlemen were the ethics of medicine.

An advertisement in The Journal of the Medical Association of Georgia will bring results. Rates sent on request.

MEDICAL ASSOCIATION OF GEORGIA.

Minutes of the Sixty-Seventh Annual Meeting Held at Columbus, April 19, 20 and 21, 1916.

April 19th—First Day—Morning Session.

The Association met at 10:30 a. m., and was called to order by the President, Dr. W. S. Goldsmith, Atlanta.

Prayer was offered by the Reverend S. Alston Wragg, Columbus.

Hon. John C. Cook, Mayor of Columbus, was introduced and delivered the following address of welcome:

Mr. President and Members of the Medical Association of Georgia: It is not my intention to make a speech, and I shall not attempt to do so, as I am reminded of a speaker who once stood before an audience and after looking around for a while he inquired, "What shall I talk about?" A voice from the rear of the hall cried out, "Talk about one minute." (Laughter.) The subject I do not have to inquire after, but the suggestion of brevity, as outlined in the story, I shall follow.

There are broad-minded men and narrow-minded men: the former look at things from various angles; the latter view them in the rough. I think this can be very well illustrated by the story of two preachers. One of them could take the same text and preach a different sermon every time. The other would take a different text and preach the same sermon. I have in mind a preacher whom I once knew, and have heard him preach a number of times. I will say that he does not live in Columbus, and he is not living in the State of Georgia now; consequently, I am not talking about your preacher. But it made no difference what the text was, he would always preach a sermon on the Second Coming. (Laughter.)

We can better judge of the progress that has been made by comparing the present with the past, and that brings to my mind a story of a doctor away back yonder. That doctor is dead now, so I have no reference to doctors here. But on one occasion he was called to see a patient, and when he entered the room he did not know just what the man or patient was troubled with. He could not diagnose the case. He did not know what treatment to give. So, all at once, he got hold of the patient and handled him vigorously,

and some one said, "What are you doing?" "Oh," he replied, "I am trying to throw him into a fit. I am great on fits." (Laughter.) That was his specialty. But all levity aside.

This is an age of progress. Progress can be illustrated in many ways, and I think we can take for the present the lamentable war which is going on in Europe. Formerly they fought upon land and water, and now they fight in the air and under the water as well. It would seem that the engines of death and destruction which have been devised have about reached the climax. But medical and surgical science has kept abreast of every other advancement. Today a surgeon can do things that are wonderful. Death from disease in the army formerly counted for more than were slain upon the battlefield, and today with antiseptic surgery and skill the death rate among soldiers has been very materially reduced. Today the doctor and the surgeon are able to take care of the wounded men in such a way that in a very short time many of them are ready to return to the front. I think most of us would very much rather see progress made on the line when the sword shall be beaten into a plowshare and the spears into pruning hooks.

The day is coming when a man will call on his physician to keep him well rather than attend him in his sickness and effect a cure. I think to some extent that is done now, just as lawyers are often consulted by their clients to keep them out of trouble and out of court. That is done on the theory that an ounce of prevention is worth a pound of cure.

Gentlemen, of the Medical Association of Georgia, yours is one of the highest and noblest callings. The true type of greatness is that of serving, and how nobly and well do you serve humanity in its suffering and in sickness. We feel greatly honored in having you in our midst, and I take very great pleasure, as the Mayor of Columbus, in extending to you a very cordial and hearty welcome to our city. (Applause.)

Dr. Neal Kitchens, of Bullochville, was introduced and delivered an address of welcome on behalf of the Muscogee County Medical Society.

"Mr. President and Gentlemen of the Georgia Medical Association:

"On behalf of the Muscogee Medical Society, I bid you welcome. An invitation from this society always carries with it a cordial welcome from every one of the 50,000 inhabitants of the three adjacent cities which compose Greater Columbus. That spirit of the old South which knew no strangers, but enveloped all men alike, and made them feel at home, still obtains in this historic city. The old latchstring, the pioneer's signal of welcome, is not in evidence; the big key, the welcome sign of the earlier cities, has not been presented. The reason for this is we feel so honored in having you with us that we have removed all the doors and gates of the city, and have evoked the aid of the evanescent occult 'Sons of Alladin' to gratify your every wish.

"The rose-clad hills which surround the city bid you welcome; the stately elms and poplars which line the streets and avenues bid you welcome; the great boulders which here mark the northern boundary of the coastal plain echo the welcome of the trees and flowers; the Chattahoochee River, which comes 'over the hills of Habersham and down the valleys of Hall,' hesitate here on its way to the sea to bid you welcome. So you see the 'tongues in the trees, the sermons in the stones, the books in the running brooks, and the good in everything' have combined with the Muscogee County Medical Society not only to bid you welcome, but to inspire you to greater efforts for the relief of suffering humanity.

"It was upon a rock (General Benning) of Columbus that the Confederate government stood for four years against the world. It was the inspiration of a Columbus woman (Miss Rutherford), induced by her devotion to the Lost Cause which each recurring spring scatters flowers over the graves of all the heroes of our united country. Here the last battle of the great conflict was fought; and it was a citizen of this city whose leadership redeemed the state from the oppression of reconstruction and made possible the great achievements of our people. So you see Columbus was last at the grave of the Old South and first at the birth of the New.

"From our past history, we are sure you will all agree upon a diagnosis. The prognosis concerns not only the local society and

the city, but every member of the medical profession of Georgia. Past history, diagnosis constitute the eternal triangle of the medical profession; and were I to describe that triangle I would say, 'A rightangle triangle, of which the past history is the base; the diagnosis the perpendicular; and the prognosis, the hypotenuse.' To be able to draw the hypotenuse correctly you must be able to 'look into the seeds of time and tell which will grow and which will not.' Shall I attempt to draw it for you?

"Has this great city in her mighty effort to maintain her commercial and manufacturing supremacy forgotten any of the lessons of history? Have you, gentlemen of the Georgia Medical Association, in your hurry to keep up with the tide of medical progress neglected the memory of your great singer?

" 'Empires rise, flourish and decay; but it is the heart-songs of a people that keep on forever.' In proof of this assertion let us note for a moment the history of ancient Carthage and Greece, both victims alike of Roman ambition. Carthage, proud mistress of the sea for 500 years, passed into oblivion with her destruction, and 'not even a rose was left on a stalk to tell where the garden stood,' because she had no great poets. But the heart-songs of the people of Greece, sung by her great poets, are still the elements of all our arts and sciences, and have been the foundation of all subsequent civilization. It is the influence of the heart-songs of a people that feels no tyranny and knows no subjugation. 'Misfortune can not subdue it, power can not crush it, and unjust laws can not oppress it.' It was the songs of the Old South that revived the courage of the New and enabled her to write into the annals of time 'Death and not defeat is the only conqueror of the Anglo-Saxon race.'

"How many members of the Georgia Medical Association recall the poems of the great singer? How many children in our public schools and how many citizens of this city have ever paid him homage? His fame belongs to the world, his songs to posterity, his remains to the city of Columbus, his memory to the medical profession of Georgia. In our headless rush for wealth and fame shall we forget the source from which they spring?

"Why not make this the greatest meeting ever held by this society? We can do this by erecting a plain marble shaft out on the public square, in the shadow of Torch Hill,

the home he loved so well, and dedicate it to his memory. Let the shaft be four-square to the world; and on the east side we will inscribe his name, 'Dr. Francis Orray Ticknor'; on the north side his 'Ode to Peace'; on the west side his biography 'For greater love hath no man than this, that he lay down his life for his friend,' and on the south side let us verify his own assurance that 'No truth can die for which the true are weeping, nor dead for which they died,' by carving an image of 'Little Giffen of Tennessee' winning 'the race of skeleton boy against skeleton death,' the victory of the one a tribute to the courage of the Old South, the defeat of the other a tribute to the skill of this great poet-physician; and underneath we will inscribe the sequel, the roll of 'The Columbus Prisoners,' a tribute to the citizenship of Columbus."

Judge A. W. Cozart, of Columbus, delivered the following address of welcome on behalf of the legal profession:

Address of Welcome by Judge Cozart.

Mr. President and Gentlemen of the Medical Association of Georgia: I do not know why I, a lawyer, was selected to make this address unless it was thought to be always appropriate for a skeleton to appear before a body of physicians and surgeons.

When guests come to our city they find an open door, open hands, open hearts, open pantries, and, if need be, open purses, and now I am extending to you the hospitality of an open mouth.

The difference between the legal profession and the medical profession is this: Lawyers think that they have the best profession in the world. However, laymen do not have quite the same opinion, and our enemies certainly do not concur in this view. Lord Brougham has defined a lawyer as "one who rescues your estate from your enemies and keeps it to himself." And Voltaire has defined a physician as "a man who pours drugs of which he knows little into a body of which he knows less." And Punch has defined a doctor as "one who kills you today to prevent you from dying tomorrow."

It has always seemed strange to me that friends and relatives of a deceased person felt called upon to send for a physician to announce to them whether or not the said

deceased was dead. I know at banquets we have a rule to guide us in finding out when a man is drunk or sober, which is this:

"He is not drunk who from the floor
Can rise again and drink once more;
But he is drunk who prostrate lies
And can not either drink or rise."

(Laughter.)

And it seems to me that one might be able to ascertain whether a person is dead or alive by applying a somewhat similar method:

He is not dead who from the bed
Can rise again or grunt once more;
But he is dead, it may be said,
Who can not either grunt or snore.

(Laughter.)

Permit me to state a few things which may be of interest to you: The city of Columbus has a very low death rate. Some time ago the statistics showed that only two or three cities in the United States had a lower death rate.

This city has one of the best water plants in the South. We have the finest public school system in the South.

The late Mr. Justice Mark H. Blandford, the grandfather of our city physician, used to say that he would not mind dying if he could be buried at Arlington. We have such a complete, modern and elegant City Hospital that, I presume, patients count themselves happy to be ill, provided they can be treated there.

Other cities in this country have suffered on account of the financial depression during the last two years. Real estate values here have not decreased in the slightest. We are in a splendid financial condition. We lawyers and physicians have been having some "good pickings." Our ministers have been praying for our people on Sunday, and the lawyers and physicians have been preying on them during the week.

I hope that you will find great pleasure and profit on this occasion, and to this end I, in the name of and in behalf of the city of Columbus, extend to you a most cordial and hearty welcome. (Applause.)

Dr. J. M. Smith, of Valdosta, responded to the addresses of welcome.

Response by Dr. Smith.

Mr. President, Members of this Association, Ladies and Gentlemen: It was with a great deal of diffidence that I accepted the invitation to appear on this program this morning, feeling my incapacity to meet the requirements of this occasion.

I felt somewhat as the man about whom Edward Wolcott tells us. It was during the Shakespeare-Bacon controversy some years ago. He said that he did not know whether Bacon wrote the Shakespeare plays or not, but if he didn't, he missed the greatest opportunity of his life.

In assigning me this pleasant task your committee evidently had in mind a story I heard a few days ago of a man traveling in the country. He finally came to a farmhouse by the roadside. There was this inscription on the gate: "This farm is for s-a-i-l." Seeing an old lady in the field close by he called to her, "Auntie, can you tell me when this farm is going to sail?" "Yes, just as soon as the first man comes along here who can raise the wind."

I am glad that it is my privilege and pleasure to furnish a little of the wind that is required to sail the old ship of the Medical Association of Georgia into this beautiful harbor of Columbus.

To me the name of "Columbus" is charming. When I was a schoolboy just beginning to learn something of the history of our country I wondered and I still wonder how this great country of ours, as the orators are wont to say, "This land of the free and the home of the brave, warmed by the gentlest sunshine that ever shone from the face of Heaven, cooled by the sweetest breezes that ever fanned into life the flowers of the fairyland, here in this land where every man carries with him in his daily walk of life his own sovereignty," I repeat that I wonder how we could have been so unmindful of our obligations as to fail to pay homage to the man who gave us our birth, by not giving it some semblance of his name.

I am glad, however, that in almost every state of this Union there is a city which does pay him that tribute, and not least of these is the city in which we find ourselves gathered today.

Columbus has many things of which she should feel justly proud. I should like to

mention her splendid water facilities, her factories, her public institutions, and particularly her public school system, which, I understand, has been a model and an inspiration to the educational interests of the South. But to my mind the one thing which stands out pre-eminent, the one thing which she should be the proudest is the realization of the fact that she has builded her fortune on this side of the river instead of the other, and thereby becomes a daughter of the grand old State of Georgia.

I wish to say to you today that this Association comes to you not as the tiny stream dancing in the sunbeam's smile, thwarted there by every wind and every obstacle in its path, with no fixed purpose, nor do we come as the surging torrent that flows with ceaseless energy sweeping everything before it, leaving desolation and death in its path; but we do come as the quiet and peaceful stream, deep and abiding, enriching that which it touches, leaving life and happiness in its wake.

I am sure no one here can doubt the genuine and generous hospitality of the hosts of this gathering. If my power of expression were in keeping with my feelings I could do exact justice in responding to these beautiful addresses of welcome, but such is not the case. I am constrained to say with Shakespeare, "Beggat that I am, I am poor even in thanks."

On behalf of the Medical Association of Georgia I desire to thank the city of Columbus and the Muscogee County Medical Society for their warm and most generous welcome. (Applause.)

At the conclusion of Dr. Smith's remarks, the secretary presented a report of the proceedings of the House of Delegates. (See minutes of the House of Delegates.)

Dr. Emery R. Park, Brunswick, read a paper entitled "By Example as Well as by Precept, which was discussed by Drs. Murphey and McHatton, and in closing by Dr. Park.

Dr. J. O. Elrod, Forsyth, read a paper entitled "A Plea for Regulating the Advertising and Sale of Patent Medicines." This paper was discussed by Drs. Kitchens, Weaver, Allen, Dean, McHatton, and in closing by the essayist.

Dr. M. M. McCord, Rome, read a paper entitled "How We Expect the Ellis Public Health Bill to Benefit Floyd County," which

was discussed by Mr. Ellis, Allen, Fort, and in closing by the author of the paper.

Dr. E. E. Murphey, Augusta, read a paper on "The Management of Diphtheria Epidemics."

On motion, the Association adjourned until 2:30 p. m.

First Day—Afternoon Session.

The Association reconvened at 2:30 p. m., and was called to order by the President.

Dr. W. W. Blackman, Atlanta, read a paper on "Hydrotherapy," which was discussed by Dr. Niles, and discussion closed by the author of the paper.

Dr. Robin Adair, Atlanta, read a paper entitled "The Grave Danger of the Painless Blind Abscess: the Emetin Flash," which was discussed by Drs. Thrash, Williams, Niles, Fowler and in closing by the essayist.

Dr. E. P. Merritt, Atlanta, read a paper entitled "The Value of the Cystoscope in the Diagnosis of Genito-Urinary Conditions."

Dr. A. L. Fowler, Atlanta, followed with a paper on "Practical Cystoscopy."

These two papers were discussed together by Drs. Ballenger and Champion, and in closing by the essayists.

Dr. W. L. Champion, Atlanta, read a paper entitled "The So-Called Tertiary Syphilis."

Dr. E. C. Thrash, Atlanta, read a paper entitled "The Pathology of Syphilis."

Dr. A. H. Bunce, Atlanta, read a paper on "Salvarsan in the Treatment of Syphilis."

Discussed by Dr. Gould, and in closing by Dr. Champion.

On motion, the Association adjourned until 8:30 p. m.

First Day—Evening Session.

The Association reconvened at 8:30 p. m., and was called to order by the President.

Dr. E. C. Davis, Atlanta, read a paper entitled "Gastro-enterostomies Performed During the Two Extremes of Life," which was discussed by Drs. Niles, Harold, Rogers, Bunce, and in closing by Dr. Davis.

Dr. E. G. Jones, Atlanta, read a paper on "Some Observations on Goiter Based on a Study of Two Hundred Cases," with lantern demonstration.

The paper was discussed by Drs. Niles, Goldsmith, Harrold, Rogers, Harris, Hiers, and in closing by the author of the paper.

Dr. George M. Niles, Atlanta, read a paper on "The Diagnosis of Duodenal Uleer, X-ray and Otherwise," with lantern demonstration.

The paper was discussed by Dr. Rogers, and discussion closed by the essayist.

Dr. L. C. Fischer, Atlanta, followed with a paper entitled "Cancer of the Breast," which was illustrated with numerous slides.

The paper was discussed by Drs. Munroe, McRae, Harrold, Bunce, Westmoreland, Campbell, Battey, and discussion closed by the essayist.

On motion, the Association adjourned until 9 a. m. Thursday.

April 20th—Second Day—Morning Session.

The Association met at 9 a. m., and was called to order by the President.

The President read telegrams from Drs. Seal Harris, R. R. Kime and W. W. Pilcher, extended greetings, and regretting their inability to attend the meeting.

Dr. Dunbar Roy, Atlanta, read a paper entitled "Some Pathologic Conditions of the Salivary Glands and Their Treatment," which was discussed by Drs. Battey, Harrold, Adair, Roberts, Palmer, Mason, Allen, and discussion closed by the author of the paper.

Dr. C. C. Harrold, Macon, read a paper entitled "Volkman's Contracture, With Report of Cases."

Dr. H. S. Munroe, Columbus, read a paper entitled "Acute Torsion of the Ovary in Young Girls. With Report of Two Cases," which was discussed by Drs. Battey, Allen, and in closing by the essayist.

Dr. W. W. Battey, Augusta, read a paper entitled "The Ideal Operation for Retrodisplacements of the Uterus," which was discussed by Drs. Noble, Battey, and in closing by the essayist.

Dr. W. L. Cooke, Columbus, read a paper entitled "Gunshot Wound of the Spinal Cord," which was discussed by Drs. Dowman, Harrold, Hardin and Block.

Dr. F. W. McRae, Atlanta, read a paper entitled "Conservation of Tissue, Restoration of Function, Not Removal of Organs, Should Be the Aim of Surgery." The paper was

discussed by Drs. Westmoreland, Hardin, Roberts, Hall, Merritt, Block, Battey, Allen, and in closing by the essayist.

Dr. F. G. Hodgson, Atlanta, read a paper entitled "Chronic Affections of the Knee," which was discussed by Dr. Dean and in closing by the essayist.

Dr. Willie F. Westmoreland, Atlanta, read a paper entitled "The Acute Abdomen," which was discussed by Drs. Barge, Green, Rogers, Campbell, Harrold and in closing by the essayist.

On motion, the Association adjourned until 2:30 p. m.

Second Day—Afternoon Session.

The Association reconvened at 2:30 p. m., and was called to order by Vice-President Weaver.

Dr. J. T. Rogers, Savannah, read a paper entitled "Acute Dilatation of the Stomach," which was discussed by Dr. Palmer.

Dr. L. M. Gaines, Atlanta, read a paper entitled "Nervous Manifestations of Bright's Disease," which was discussed by Drs. Bunce, Clark, Thrash, and discussion closed by the essayist.

Dr. J. W. Palmer, Ailey, read a paper entitled "Pituitrin," which was discussed by Drs. Clark, McArthur, Bargo, Thrash, and in closing by the essayist.

Dr. C. W. Findley, Broxton, read a paper entitled "Treatment of Bronchial Asthma with Autogenous Vaccines," with report of case. The paper was discussed by Drs. Bunce, Thrash, Clark, and in closing by the essayist.

Dr. Stewart J. Roberts, Atlanta, read a paper entitled "Angina Pectoris," which was discussed by Dr. Thrash and in closing by the essayist.

Dr. W. A. Mulherin, Augusta, read a paper on "A New Dietetic Treatment as Indicated from Simple Culture of Stools in Infectious Diarrheas in Infancy and Childhood."

Discussed by Dr. Palmer, and in closing by the essayist.

Dr. J. G. Dean, Dawson, read a paper entitled "Migraine," which was discussed by Dr. Thrash and in closing by the essayist.

On motion, the Association adjourned until 9 a. m., Friday, April 21st.

Third Day—Morning Session.

The Association met at 9 a. m. and was called to order by the President.

The Secretary read the report of the proceedings of the House of Delegates. (For particulars, see Minutes of the House of Delegates.)

On motion, the report was adopted as read.

Dr. F. P. Calhoun, Atlanta, read a paper entitled "Removal of Foreign Bodies from the Globe by the Electro Magnet," which was discussed by Drs. Osborne, Smith, Stockard, Lokey, Lyle, and in closing by the essayist.

Dr. Cecil Stockard, Atlanta, read a paper on "Hygiene in the Prophylaxis and Treatment of Eye Diseases," which was discussed by Drs. Osborne, Mason, Hiers, Kitchens, Stapler, and in closing by the author of the paper.

The President With some state medical associations it has been the rule to submit the stenographic report of discussions on papers to the authors for revision prior to their publication. Many of the members of our Association have been so notoriously lax in returning their revised discussions, that it has been difficult for our Secretary (Dr. Lyle) to secure them for publication in *The Journal*. Therefore, it has been the rule for the last year or two to send out only such discussions to authors for revision from the office of the Secretary as are requested by the participants.

The revision of these discussions should be restricted to embellishment and to the correction of obvious errors, and no new matter should be incorporated which was not uttered on the floor.

The Chair makes this statement because Dr. Thrash did not include this matter in his original motion, which was adopted, for appointment of four associate editors.

If any member, therefore, wishes to revise the stenographic report of his discussions prior to their publication, he should communicate with the Secretary for a copy of his remarks.

Dr. C. L. Pennington, Macon, read a paper on "The Diagnosis and Removal of Foreign in the Trachea and Bronchi," which was discussed by Drs. Stockard, Calhoun, Lokey, Dean, and in closing by the essayist.

Dr. A. B. Mason, Waycross, read a paper on "The Treatment of Concomitant Squint," which was discussed by Drs. Osborne, Calhoun, Lokey, Hiers, Mitchell, and in closing by the essayist.

President Goldsmith delivered his address. He selected for his subject "Review of Present Medical Affairs in Georgia."

At the conclusion of the address, Dr. McRae moved that the Association endorse that portion of the President's address which recommends that a law similar to the Alabama law be recommended by the Committee on Public Policy and Legislation.

Seconded and carried.

The address was then discussed by Drs. Fort, Osborne, Kitchens, Poer, Elrod, McArthur, Clark, Haggard, Hardman, McRae, Allen and Westmoreland, after which the discussion was closed by President Goldsmith.

Dr. Allen moved that the address of the President be printed in pamphlet form, and that copies of it be furnished to each member of the legislature. Seconded.

Dr. W. C. Lyle offered as a substitute that all matters pertaining to the annual report of the President be referred to the Committee on Public Policy and Legislation with power to act.

The substitute was seconded, accepted and adopted.

Dr. Charles Gould, Atlanta, read a paper on "Vincent's Angina."

Dr. H. M. Lokey, Atlanta, followed with a paper on the same subject.

These two papers were discussed by Drs. Bunce, Papillo, Mason, Wells, and discussion closed by the essayists.

On motion, the Association adjourned until 2:30 p. m.

Third Day—Afternoon Session.

The Association reconvened at 2:30 p. m., and was called to order by the President.

Dr. E. E. Osborne, Savannah, read a paper entitled "The Importance of an Ocular Examination in the Diagnosis of Constitutional Disorders."

Dr. M. M. Stapler, Macon, read a paper entitled "Brief History of and Demonstration by Congenital Deaf Mutes Hearing and Conversing Over Long Distance Telephones," and exhibited two patients.

The election of officers being in order, the following gentlemen were balloted for and declared duly elected: President, Dr. J. G. Dean, Dawson; First Vice-President, Dr. J. M. Anderson, Columbus; Second Vice-President, Dr. C. K. Sharpe, Arlington; Delegates to the American Medical Association, Dr. F. W. McRae, Atlanta, for the two-year term; Dr. Stewart R. Roberts, Atlanta, for the one-year term; alternates, Dr. E. G. Davis, Atlanta, two-year term; Dr. J. M. Smith, Valdosta, and Dr. A. G. Fort, Atlanta.

Councillor for Fifth District, Dr. W. L. Champion, Atlanta; Sixth District, Dr. J. O. Elrod, Forsyth; Seventh District, Dr. C. S. Bailey, Newman, and Eighth District, Dr. McChurry.

Drs. Murphey and Nolin were appointed as a committee to escort the President-elect to the platform.

Dr. Goldsmith, in introducing his successor, said: "This is one of the greatest satisfactions and pleasures that I have to introduce to you this stalwart member of the Medical Association of Georgia, who is known as the war-horse of his district. It gives me great pleasure to turn over this gavel to you, Dr. Dean, and I wish you every success, happiness and prosperity in the administration of this office." (Applause.)

Dr. Dean, in accepting the Presidency, said: "Gentlemen of the Medical Association of Georgia: I have been a member of this Association for thirty years. During that time I have tried, at all times, to do my duty. I have shirked nothing. Whatever you put upon me I have tried to do to the best of my ability. I have tried, at all times, to take an interest in what was being done for the medical profession and for the Medical Association of Georgia. I take this great honor, which your magnanimity has seen fit to bestow upon me, as evidence of your approval and also of your confidence in me in the future. To say I am grateful for it is putting it mildly. My heart overflows. I feel I would rather be president of the Medical Association of Georgia than of the great United States. (Applause.) To be at the head of the profession which I have selected for a life-work is certainly an honor to be proud of and one to be sought by any one, and I certainly feel unworthy of what you have done for me; at the same time, I promise you all that is within me.

"There is a feature, too, in this election on this occasion that is sentimental to me. Just a few miles north of this city fifty-seven years ago I first saw the light of day amid the rugged hills and grown up pine thickets, but which are, nevertheless, just as dear to me, and to have been thus honored and surrounded by the friends of my youth, by the surroundings of my native heath, is an honor and a delight for which I certainly more than usual thank you.

"Now, gentlemen, there is only one way to make a success of my tenure of office, and that is by your thorough co-operation, and I trust none of you will ever hesitate to offer a suggestion or offer advice. I am never too old and never unwilling to learn, and I shall thank you for your help and for your co-operation, and I promise you the very best I can do." (Loud applause.)

Dr. E. E. Murphey tendered a warm invitation to the Association to hold its next meeting in Augusta.

Dr. M. A. Clark moved that the invitation be accepted.

Seconded and unanimously carried.

Dr. E. T. Coleman, Graymont, offered the following resolution of thanks:

Speaking for this Association, I move a unanimous vote of our sincere thanks to the splendid and beautiful city of Columbus, the Muscogee County Medical Society, and the managers of the Ralston Hotel, whose happy guests we have been during this session of the Association, for the spontaneous, cordial and unbounded hospitality shown us. Especially do we remember most pleasantly Dr. J. M. Anderson, who acted as chairman of the entertainment committee, for his unceasing and untiring efforts in our behalf. Also that our thanks be extended to our President for his uniform courtesy and able rulings during the deliberations of the Association.

Motion seconded and carried unanimously.

Dr. M. A. Clark, Macon, offered the following resolution, which was adopted unanimously:

Resolved, The Medical Association of Georgia is in hearty sympathy with the American Medical Association and wishes it success in its fight against secret nostrums.

As there was no further business to come before the meeting, either scientific or otherwise, on motion, the Association then adjourned to meet in Augusta in 1917.

MEDICAL ASSOCIATION OF GEORGIA.

Minutes of the House of Delegates of the Sixty-Seventh Annual Meeting, Held at Columbus, April 19, 1916.

Wednesday, April 19th, First Meeting.

The House of Delegates met at 9:30 a. m., and was called to order by the President, Dr. W. S. Goldsmith, Atlanta.

The Secretary called the roll and announced a quorum present.

The first thing in order being a report of the Committee on Scientific Work, the Secretary stated that the work of this Committee was embodied in the official program, copies of which had been supplied to the members.

Dr. J. Lawton Hiers moved the adoption of the official program as printed.

Seconded and carried.

Dr. J. M. Anderson, Columbus, in reporting for the Committee of Arrangements, stated that inasmuch as it was thought a smoker on Wednesday evening, immediately after the scientific Session would interfere with the regular sessions of the Association, it was decided not to have it.

The annual banquet would be held Thursday night.

Dr. E. E. Murphey moved the adoption of the report of the Committee of Arrangements.

Seconded and carried.

MOTION TO AMEND BY-LAWS.

The Secretary stated that at a meeting of the Board of Councilors, held Tuesday evening, a motion was made to amend the By-Laws, as published in the May issue of the JOURNAL, relative to the adoption of the medical defense, and this amendment was recommended to the House of Delegates for adoption. The amendment concerned Chapter VI, Section 1 of the By-Laws. It is proposed to amend the By-Laws with regard to the terms of office by inserting the words "One, three and five years" in place of the words, "One, two and three years," as formerly.

The By-Law as amended reads as follows:

Chapter VI., Section I. By inserting the words, "A Committee on Medical Defense," along with the list of standing committees.

Making Sec. 4 to read Sec. 5 and inserting the following section as Sec. 4:

The committee on Medical Defense shall consist of five members, of whom the chairman of the Board of Councilors, and the Secretary-Treasurer of the Association shall be members. The other members, one of whom shall act as chairman of the Committee, shall be elected by the Council for a period of five years. Those elected at this meeting to serve one, two and five years, respectively.

It shall be the duties of the members of the Committee on Medical Defense, severally or collectively, to investigate and defend all damage suits against the Medical Association of Georgia, to investigate all claims of civil malpractice made against members; to take full charge of cases which after investigation, they will have decided to be proper cases for defense; to defend such cases to the end and pay all costs of such defense; but they shall not pay, or obligate the Medical Association of Georgia to pay any judgment rendered against any member upon the final determination of any such case. They shall be empowered to contract with such agents or attorneys as they may deem necessary, but shall always consult the defendant in employing attorneys.

The assistance for defense, as herein provided, shall be available only to members of the Medical Association of Georgia in good standing. A member in arrears with annual dues after February 1st shall not be entitled to defense as herein provided for any suit, the cause of action of which arose while said members was in arrears.

Any member or members of the Medical Association of Georgia threatened with suit for civil malpractice, who desires the assistance of the Committee on Medical Defense, shall, immediately that he becomes aware of the threat to sue, so notify the Secretary of the Association, or the general attorney of the Association, in the instance there is not time to communicate with the Secretary. The Secretary or general attorney, so notified, shall proceed immediately to investigate the circumstances reported, in the manner and after the procedure hereafter to be set out

by the Committee on Medical Defense, securing for the consideration of the said Committee full data and statement of facts and circumstances surrounding the filing of the suit or suits for its consideration, and permanent files. The member sued or threatened with suit, and under investigation by the Committee on Medical Defense, shall be consulted and have the full confidence of the committee in all transactions connected with the investigation in question. The Committee on Medical Defense shall have the authority to require of a County Society or the President thereof, the appointment of a committee of investigation in any such case, and it may direct the said committee so appointed to report to the Committee on Medical Defense and not to the Society from which it is appointed.

It is understood the Association will not undertake to defend suits brought as offsets for bills for services rendered, or where it is understood the plaintiff will not sue for alleged civil malpractice if suit is not brought for collection of the services rendered at the time the cause for action arose.

The Committee on Medical Defense may also at its discretion arrange to prosecute illegal practitioners and enforce the Medical Practice Act of this State.

Dr. Thrash moved the adoption of the report, as read by the Secretary. Seconded.

Dr. Murphy moved to amend that the phraseology in the report be changed in accordance with the suggestion of the Secretary.

The amendment was seconded, accepted, and the report as amended was unanimously adopted.

On motion, the House of Delegates adjourned until Thursday, 6 p. m.

April 20th, Thursday, Second Meeting.

The House of Delegates met Thursday at 6 p. m., and was called to order by the President.

Dr. Willis F. Westmoreland, in speaking for the Committee on Public Policy and Legislation said the only business that came before the Committee was the Optometry Bill and the Osteopathic Bill. By agreement the osteopaths consented to raise their standard of preliminary and college education equivalent to that of the regular schools of medicine, and a bill was drafted to that effect.

As to the Optometry Bill, it would undoubtedly be passed at the next session of the legislature.

Dr. Westmoreland called attention to various hospitals springing up all over the state and urged the importance of these institutions having a fixed standard of requirements.

Dr. L. C. Allen called attention to the bill he introduced last summer providing for a Commissioner of Health, and abolishing the position of Secretary of the State Board of Health, the Commissioner of Health to be elected by the State Board of Health, and to devote his entire time to the duties of the office. While the bill provides for a salary of \$3,000 a year, this could be changed if found necessary.

It was moved and seconded that the report be adopted. Carried.

Dr. Allen gave the present status of the Vital Statistics Law, saying that it is on the statute books, but no appropriation has thus far been made to put it into effect.

Dr. E. C. Davis made a report as delegate to the San Francisco meeting of the American Medical Association. He emphasized the importance in electing officers of the State Association to select men as delegates who had been members of the American Medical Association for two years prior to the time of their election, otherwise they would not be eligible as delegates. He mentioned instances of delegates who had been sent to the American Medical Association by their State Associations, but who, on investigation, were found ineligible because they had not been members of the American Medical Association for two years previous to the time they were elected delegates, thus causing them great embarrassment.

He called attention to the matter of establishing a National Board of Medical Examiners, which was brought before the House of delegates of the A. M. A., by Dr. William L. Rodman, action on which was postponed until the Detroit meeting this year.

Dr. Davis referred to the excellent system employed by the House of Delegates of the American Medical Association in transacting its business, and said that any state society might emulate the methods of that body in conducting business to great advantage.

Dr. Harvard moved that in electing delegates to the American Medical Association it

should be distinctly stated that the delegates selected must have been members of the American Medical Association for two years prior to their election as delegates, by the State Association.

Seconded and carried.

The Secretary read the report of the Council, as follows:

Meeting of Council, Columbus, April 18, 1916.

Meeting called to order by Dr. E. T. Coleman, chairman. The following Councillors and Vice-Councillors were present and made their reports:

Second District—Dr. C. K. Sharp, Vice-Councillor.

Third District—Dr. V. O. Harvard, Councillor.

Fourth District—Dr. H. W. Terrell, Councillor.

Fifth District—Dr. W. L. Champion, Councillor.

Ninth District—Dr. L. C. Allen, Councillor.

Tenth District—Dr. J. A. Price, Councillor.

Eleventh District—Dr. J. M. Smith, Vice-Councillor.

Twelfth District—Dr. E. T. Coleman, Councillor.

The report of the sub-committee on Medical Defense and on motion of Dr. L. C. Allen was adopted with a request that it be recommended to the House of Delegates.

The report of the Secretary-Treasurer was submitted and a committee consisting of Drs. Champion, Harvard and Allen was appointed to audit this report for the Council.

Gentlemen:

Owing to illness during the past month I shall be compelled to limit my sixth annual report to the numerical strength of the Association and its financial condition at the end of the fiscal year, together with a supplementary report of conditions as they exist at the present time.

The financial report embraces the period from the last audit April 15, 1915, to January 1, 1916, and, therefore, does not include the dues for 1916 members.

Our last report showed a balance in bank of \$818.92, but at that time the Association had an outstanding note of \$1,080.00 due May 1, 1915. This note was paid in full when due, and the financial statement for the year 1915 is as follows:

Income.

Balance in bank	\$ 818.92
Receipts	1,734.26
Total	\$2,553.18

Expenditures.

(As per vouchers attached).....	\$2,503.00
Balance January 1, 1916.....	50.18
Past due accounts due The Journal..	1,176.50
Total assets	1,226.68
Bills payable	\$1,350.00

Supplementary Report (Since Jan. 1, 1916).

Income.

Balance in bank Jan. 1, 1916.....	\$ 50.18
Receipts	3,493.61
Total	\$3,543.79

Expenditures.

(As per vouchers attached).....	\$2,607.07
Balance on hand April 15th.....	936.72
Bills payable	\$ 191.87

Total Assets.

Balance in bank	\$ 936.72
Past due accounts	828.50
	\$1,765.22
Total indebtedness	191.87
Balance	\$1,573.35

Total number of members, including honorary members for 1916.....	1,056
--	-------

Respectfully submitted,

W. C. LYLE, M.D.,

Secretary-Treasurer.

EXPENDITURES.

(As Per Vouchers Presented.)

No. Charge slip returned check.....	\$ 39.00
338 Phoenix Printing Co., postage....	6.56
339 W. C. Lyle, Ass'n. note with interest	1,080.00
340 E. T. Coleman, councillor's ex- pense	31.25

341 Phoenix Printing Co., postage..	5.60
342 Phoenix Printing Co., postage..	5.31
343 Phoenix Printing Co., on acct...	50.00
344 Nat. Exchange Bank, draft for badges	17.60
345 Phoenix Printing Co., on acct...	75.00
346 W. J. Cranston, councillor's ex- pense	30.00
347 Phoenix Printing Co., on acct...	100.00
348 Phoenix Printing Co., on acct...	50.00
349 W. R. Dawson, bond.....	5.00
350 Phoenix Printing Co., postage..	5.51
351 Phoenix Printing Co., on acct...	50.00
352 Phoenix Printing Co., on acct...	50.00
353 Phoenix Printing Co., on acct...	50.00
354 Phoenix Printing Co., postage..	5.52
355 Phoenix Printing Co., on acct...	50.00
356 J. R. B. Branch, councillor's ex- pense	7.90
357 Phoenix Printing Co., on acct...	75.00
358 William Whitford, reporter.....	164.32
359 Phoenix Printing Co., postage..	5.10
360 Postmaster, advance on stamped envelopes	1.24
361 H. A. Spielberger, protecto- graph	15.00
362 Phoenix Printing Co., on acct...	200.00
363 Postmaster, stamped envelopes..	20.12
364 Phoenix Printing Co., postage..	5.33
365 Phoenix Printing Co., on acct...	50.00
366 W. C. Lyle, expenses Atlanta meeting Council	8.90
367 J. W. Levy Co., stamps.....	2.00
368 W. C. Lyle, payment of advance to protect overdraft	100.00
369 Phoenix Printing Co., postage..	4.99
370 Ga. R. R. Bank on Phoenix acct.	52.00
371 J. Lawton Hiers, councillor's ex- pense	34.75
372 Phoenix Printing Co., on acct...	50.00
1915—Total expenditures	\$2,503.00

January 1, 1916—

Received from all sources since April
15, 1915\$2,553.18

Supplementary Report for 1916 to Date.**Expenditures.**

373 W. C. Lyle, express on by-laws\$	1.64
374 W. C. Lyle, on salary.....	100.00
375 W. C. Lyle, on salary.....	200.00
376 Phoenix Printing Co., on acct...	100.00
377 Phoenix Printing Co., on acct...	51.67
378 W. C. Lyle, on salary.....	100.00
379 Stevens Engraving Co., Pres. Stationery	18.00
380 W. C. Lyle, on salary.....	100.00
381 W. C. Lyle, on salary.....	150.00
382 Phoenix Printing Co., on acct...	50.00
383 Phoenix Printing Co., on acct...	151.40
384 Postmaster, stamped envelopes..	21.36
385 W. C. Lyle, stamps.....	5.00
386 W. C. Lyle, on salary.....	550.00
387 Phoenix Printing Co., on acct...	50.00
388 Phoenix Printing Co., on acct...	100.00
389 Phoenix Printing Co., on acct.	51.00
390 W. C. Lyle, stamps.....	3.00
391 W. C. Lyle, stamps.....	4.00
392 Phoenix Printing Co., on acct...	200.00
393 W. C. Lyle, balance on salary....	600.00
	<hr/>
	\$2,607.07
April 15—Balance in bank.....\$	936.72
Indebtedness	191.87
	<hr/>
Balance	\$ 744.85

Upon motion the meeting adjourned.

Meeting of Council, April 20, 1916.

Meeting called to order by Chairman Coleman.

The committee appointed to audit the report of the Secretary-Treasurer reported as follows:

Columbus, Ga., April 19, 1916.

To the Council of the Medical Association of Georgia:

We, your committee, appointed to audit the accounts of our Secretary-Treasurer, desire to make the following report:

That, after a careful examination of the vouchers presented from April 29, 1915, to April 1, 1916, together with bank book from the Merchants Bank, Augusta, Ga., showing

deposits and disbursements, find the same to be correct as reported to the Board of Councillors.

The present officers of the Association feel elated over the fact that we are now out of debt, and have a substantial amount to our credit in the bank.

Respectfully submitted,

W. L. CHAMPION, Chairman,
V. O. HARVARD,
L. C. ALLEN.

The Council proceeded to the election of the Committee on Medical Defense. Dr. M. A. Clark, Macon, was elected for five years. Dr. E. C. Davis, Atlanta, was elected for three years. Dr. W. W. Pilcher, of Warrenton, was elected for one year.

A communication from the Chairman of the Committee on Public Policy and Legislation, relative to the account of the stenographer for that committee, was read, and it was recommended that the House of Delegates authorize the payment of same, amounting to \$25.00. Attention was called to delays in official correspondence and an explanation was made, which, by vote of the Council, was accepted as satisfactory.

On motion the meeting adjourned.

Meeting of Council April 21, 1916.

The Council met for the purpose of organization and proceeded to elect Dr. E. T. Coleman Chairman for the ensuing year. Dr. V. O. Harvard was elected Clerk.

Dr. Allen moved that the Secretary be requested to prepare a circular letter explaining the Medical Defense feature of the Association and furnish a number of copies to each Councillor. Carried.

It was moved that the report be adopted as read.

Seconded and carried.

Dr. E. C. Thrash moved that the House of Delegates recommend to the Secretary that he immediately appoint four associate editors, after a conference with the President, to serve for one year, one on medicine, one on surgery, one on gynecology and obstetrics, and one on eye, ear, nose and throat, to assist and to operate with the Secretary as chief editor in improving The Journal.

Motion seconded by Dr. Palmer and carried.

Dr. Anderson moved that a copy of the program and the issues of The Journal be sent to Dr. F. D. Murray, who is now in Europe on war duty, and that a notice be published in The Journal to the effect that the Association remembers Dr. Murray and the personal sacrifice he has made to respond to the call of duty.

Seconded and carried.

Adjourned.

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"BY EXAMPLE AS WELL AS BY PRECEPT."*

By Emery R. Park, M.D., Atlanta.

Mr. President and Gentlemen of the Georgia Medical Association:

My paper being somewhat of the nature of a critique of the medical profession, and there being very little about the profession that can be criticised, my remarks are necessarily going to be brief.

If you will pardon a personal reference, I wish to say that most of my people are lawyers, and when the time came for me to decide what was to be my life work it was proposed that I should become a lawyer, too. I didn't take to the idea very kindly, however. I thought it was high time some of us was making an honest living, so I joined the medical profession. That was something like thirteen years ago, and from that time to this I have never regretted my choice.

*Read at meeting of Medical Association of Georgia, Columbus, Ga., 1916.

Authors desiring reprints must notify Phoenix Printing Company, Augusta, Georgia, within 15 days after publication. Prices of reprints published in this issue.

I am led to say what I do today, not through any spirit of animosity, but rather through a desire to see our lofty profession put upon a plane where the charge of inconsistency can not be truthfully brought against it.

The members of our fraternity, prompted by the same unselfish motives that have caused them to get up out of warm beds on cold, stormy nights to go to see the poor as well as the rich, have assumed the altogether altruistic task of teaching the public the principles of sanitation and hygiene—and hereby, as Shakespeare would say, hangs a tale; for so wise are the laity becoming under the energetic educational campaign that the medical profession is carrying on that some of the wise ones are already beginning to detect the fact that some of us do not always practice what we preach, and I fear that unless we mend our ways in some respects we will not be able to accomplish all that we should, and the laity will, in increasing numbers, point accusing fingers at us and tell us to take the mote out of our own eye before we try to cast the beam from theirs.

It is the case that familiarity often breeds contempt, and as a result of this well-known psychological fact doctors are sometimes careless in matters they tell others to be cautious about. Such as this puts us in the position of the old negro preacher who, when rebuked for stealing chickens, told his congregation to do as he said do, not as he did!

I wish to make a plea today that those of us who have not done so in the past, will, in the future, teach by example as well as by precept. I believe the following examples will serve to show that we still need to do some sweeping before our own doors:

A few weeks ago I attended a meeting of a public health organization, composed of doctors and other sanitarians, from half a dozen or more states. The public was invited to one of the meetings and, much to my surprise, on a table in plain view of the audience, was a pitcher of water and a common drinking glass for the public health speakers to drink from.

Again, we condemn and very rightfully so, the use by the public of common drinking cups, the custom of wetting borrowed pencils in the mouth, and also the not altogether infrequent practice of chewing "second-hand" chewing gum, but what about our custom of putting our thermometers in the mouth of first one person, then another, without doing anything more than pouring a little water over the instrument and wiping it off hurriedly with a towel, and often a more or less questionable clean towel at that? It seems to me the use of the common drinking cup, "second-hand" gum, etc., while, of course, fraught with danger, is not to be compared with the unsterilized thermometer (or the unsterilized hypodermic); for in the first instance the bacteria transmitted more often than not are in a non-virulent state, while in the case of those transmitted upon thermometers and hypodermics the reverse is true.

Still further, our profession has set its cannon against the excessive use of tobacco and also against spitting, yet I believe if we were to make an investigation we would find that physicians are no less guilty of these habits than are other people. In a medical institution I know of, certain parties that are connected with it are called "Rembrandts," on account of their artistic ability in mural decorating. The material they use in their work is "amber," however, and not oil paint.

I am not so rabid against the use of cigarettes as the man who said that for the smoking of a cigarette two things are necessary: "A light on one end and a fool on the other," but I do think if we are going to preach against their use by others we should be consistent enough to abandon them ourselves.

As to alcohol, although its injurious and undermining effects are set forth, and its use railed against by us, it is nevertheless a melancholy fact that if a list were made of those in a community who have entered the race to see who can consume the most booze, not infrequently some doctor will be found to be leading the race and a certain percentage of the other doctors will be listed as "also rans." No doubt many a mother, after reading our literature, has warned her boy against the evil effects of booze and cigarettes only to have her son reply that there can't be any harm in such things or Dr. So-and-So wouldn't be using them; and the boy, not heeding the warnings of his mother, but continuing to steer his course by the false light we have hung out, sooner or later strikes upon the rock of disease and suffers irreparable damage, or, indeed, may go down in the dark depths of an untimely grave.

Our distinguished Dr. Oliver Wendell Holmes found that puerperal sepsis was often transmitted by the obstetrician; may it not also be true that many an epidemic of measles, scarlet fever, diphtheria and other transmissible disease is due to the neglect of some physician to observe the elementary principles of disease prevention? No doubt all of us were taught that after we had paid a visit to a patient afflicted with a contagious disease, or a patient we had reason to believe might have a contagious malady, there were certain precautions we should take in order that we might not spread the malady to others, but that these precautions are sometimes not observed is common knowledge.

Just the other day, at the conclusion of a talk I made on Sanitation and Hygiene in a certain town, two of the ladies of the audience came up and said they were heartily in favor of keeping the town cleaner, and they said they thought it would be a good idea to start the clean-up campaign with the local doctors' offices! It is unfortunately the case, just as these ladies charged, that often our offices are not, in the way of cleanliness, what they should be. Rubbish of all sorts is al-

lowed to accumulate and to gather dust, specimens of sputum, urine and feces are permitted to go unemptied, dirty towels are thrown about, rusty instruments and filthy catheters are scattered here and there, and an offensive slop jar and a dressing can go to make up a smell and a scene the only possible utility of which is to give the public a horrible example of what neglect will lead to.

Again, we expound to the public the virtues of fresh air, but we ourselves often hold our meetings in improperly ventilated rooms, rooms that are overcrowded, and rooms that are not only poor in oxygen and rich in carbon dioxide, but in addition, to make bad matters worse, the air is often so full of irritating tobacco smoke, that to use a hackneyed expression, you could cut it with a knife. Physicians are no less vulnerable than are other people, and I would be glad to see physicians follow more closely than they do the laws of health they prescribe for others in order that my professional brothers may continue to grace their respective communities with their beneficent presence for their allotted three score years and ten.

For me to mention any more examples would be superfluous. I believe the ones given above are sufficient to substantiate my contention, that we do not always practice what we preach.

We all know that a Methodist minister would come in for strong condemnation by his flock if he should play cards or go to musical comedies; a Baptist deacon would be criticised, no doubt, should he take communion in another church, the Hebrews would look with disfavor upon a rabbi who ate ham or chitlings, a civil judge who was a chronic law-breaker would soon have the skates put under him. The sooner we realize, too, that we must live up to the standards we set for others, the better it will be for the public and for us, too. We must teach by example as well as by precept.

My head is uncovered to the county doctor as well as to the city specialist. The deeds of chivalry performed by the knights of the olden time are landed in song and story, but to my mind their meek talked of performances do not compare with the multitudinous acts of kindness and the great unselfish deeds performed in a quiet way by the doctors every day. I believe that the general public respects us, and in order that

we may continue to hold its respect I call upon those who have been guilty of medical misdemeanors in the past to join with me today in turning over a new leaf, and ask that we resolve here and now that those of us who have not done so in the past will in the future let our light so shine that others seeing our good works will join with us in the great fight we have undertaken to rid our fair land of preventable disease and untimely death.

Now, Mr. President and Gentlemen, this little ship is the first I have ever launched upon the literary sea of the Medical Association of Georgia. It is in no respect a man-o'-war; its mission is entirely friendly, and I trust it may find a hospitable haven in the minds of those present. I am entirely willing to have removed from it any of its cargo that may be found to be contraband; and further more, if after you have leveled your periscopes upon it you decide it had better be blown up, I hope you will not hesitate to send your torpedoes into it, and I promise that while I may exchange diplomatic notes with you, I will never declare war upon any of you as a result of your act.

In conclusion, I wish to repeat that it is my conviction that if we are to hold the respect of the public, and if we are to accomplish all that we should in our educational campaign we must teach "by example as well as by precept."

DISCUSSION ON THE PAPER BY DR. PARK.

Dr. E. E. Murphey, Augusta: It appears to me that the essayist's little ship is rather in the nature of a submarine, a kind of craft with which I am familiar. It hits us below the water line and at a point where we are so vulnerable. Not only are our examples frequently bad, but our precepts as well. As the essayist has said, every one of us, if we will search our own consciences honestly, will find some places where we have laid ourselves open to this perfectly justifiable attack. Along this line I hope it will not be so very long when the answer to the oft-repeated question of the poet, "What is so rare as a day in June?" will be a surgeon with long whiskers. So much for some of our practices.

As to our precepts, very often we also go very wide of the mark. The public is becom-

ing educated, in the main, by skilled medical publicity experts, such as Woods Hutchinson and the like. The data which they get from the modern magazines, from Godey's Magazine, The Ladies' Home Journal, etc., are, in the main, accurate data, and when we are obliged from time to time to discuss matters of public health and public policy with the public we too infrequently bring into our discussions ideas which are invalid and which are no longer scientifically correct.

As a public health officer, I have met with unwilling bad precepts on the part of my confreres. Take, for instance, an epidemic of diphtheria in which, after careful laboratory work, all of the carriers in the schools of the city have been isolated and sent home, they have in a number of instances in my own experience been examined immediately upon the return to their homes by the family physicians who have announced, with every assumption of authority, and with a great deal of unnecessary indignation, that the children did not have diphtheria and could not have. That is an improper precept. The public is becoming sufficiently intelligent to hold us responsible for misinformation and recognize it as misinformation, and if we, in handing out information do not really know, we should at least pay a tribute to their intelligence by keeping silent.

Dr. H. McHatton, Macon: There is one point brought out in this paper to which I desire to refer, and that is the question of the absolute terror of the cigarette habit. That has extended all throughout the United States, and why, I do not know. I suppose it is because it is largely a new habit. The older generations of our people did not smoke cigarettes. I can remember when no gentleman would smoke a cigarette in a public place in the United States. Now, everybody who smokes cigarettes is predestined to ruin, and the average legislator thinks that a man who smokes cigarettes needs protection, but the man who smokes cigars, who chews tobacco, or smokes a pipe does not need protection. I would like to know, and I have always wanted to know, where the general idea of the absolute terrible effect of cigarettes originated.

We have, as far as I know, only two reports on the use of tobacco, one of them by the British Medical Association, and the other by a committee from the New York Medico-Legal Society. Both of these committees gave a long period of investigation to

the subject, and in their report they say that the most pernicious way of using tobacco was in chewing it; that the next less injurious was the pipe, the next was the cigar, and the least injurious of the lot was smoking cigarettes. Those are the only two reports from scientific bodies I know we have before us, still all cigarette smokers, it would seem, from what has been said, are predestined to ruin and are characterized as fools.

Many of you will remember that Ben Butler once made a speech in Congress. Many had called him a liar, a thief, a scoundrel, a cock-eyed button, and "spoon" Butler, but he said, "Gentlemen, I do not think anybody ever called me a fool."

Now, I have smoked cigarettes ever since I was ten years old, and I can smoke them all night, so far as affecting me is concerned, and I do not see why we get these general ideas that cigarette smoking is such a terrible and horrible thing. Personally, I do not believe it. (Applause.)

Dr. Emery R. Park (closing): I have nothing further to say except that I did not charge or characterize a person who smoked cigarettes a fool by any means. What I did say was that I was not so rabid against the smoking of cigarettes as was the man who said all that was necessary to smoke a cigarette was to have a light on one end and a fool on the other. I do not believe that. I do not use cigarettes myself, and for that matter I do not claim any particular credit for it. I do not smoke cigarettes for the same reason that I do not use tobacco. I do not like it. I do not wish anyone to go away with the idea that I am prejudiced against anyone who smokes cigarettes, but I do think that if we are going to show the general influence to the public of smoking cigarettes, then we ourselves should set the example. Certain corporations have made it a rule that they will not accept anyone as an employe who is a cigarette smoker, and if they have gone to that extent as a result of our teaching, then, it seems to me, that we should, at least, follow suit in making it a requirement that cigarette smokers shall not be allowed to enter our medical colleges. I do not advocate that. I think, however, it might be thought of.

It is, I think, the common observation of many physicians that a great many young boys are intensely nervous and physicians are unable to attribute their state to any other condition than the excessive use of cigarettes.

A PLEA FOR REGULATING THE ADVERTISING AND SALE OF PATENT MEDICINES.*

By J. O. Elrod, M.D., Forsyth, Ga.

I do not question the feeling of any of you who read the little article headed "Tanlac" in the A. M. A. Journal of February 26th, 1916, but, fearing that some of you failed to read it, I reproduce it here for your benefit: "Tanlac is a skyrocket in the pyrotechnics of fakery. It is at present making a brave display with much noise and many sparks; the stick will come down in due time. Tanlac is another of the increasingly popular alcoholic nostrums that presumably fill a much felt want—want, not need—in those parts of the country where Demon Rum has been driven into the tall timbers. It was first exploited in the South—naturally. This department paid its respects to Tanlac in the issue of June 5, 1915. The advertising campaign of this product has, apparently, reached Michigan and the Dairy and Food Department of that state, in Special Bulletin No. 50, published February 12, 1916, has something to say about Tanlac under the title of 'The Latest Cure-All.' As we still have a good many inquiries regarding Tanlac, it seems worth while to reprint the report of Food Commissioner Helme, of Michigan, on the product. The findings of the Michigan chemists agree essentially with those of the Association's chemical laboratory. For this report you may read The Journal, Feb. 26, 1916, page 874."

Now, why should the editor of this department say "it was first exploited in the South—naturally?" Is the South a dumping ground for patent medicine promoters? Do the people of the South take more readily to the fairy tales of the patent medicine man than any other section of our country? These are questions we should ask ourselves and answer in all candor. If true—then why?

Allowing a liberal margin in the sentimental, emotional temperament of the Southerner, I am constrained rather to believe it is because our people are densely ignorant as to the harm that may result from the use of these medicines. Then are we, as physi-

cians, true to the trust bestowed upon us; if, in spite of the prejudice against any physician who raises a voice in protest, we do not persist in exposing the worthlessness of these nostrums and begin, in all earnestness, a crusade against this ignorance by instituting a course of education on that line. And I am sorry to state this, like charity, "should begin at home." So long as the members of our own profession shall prescribe nostrums and proprietary medicines of which they know nothing, we can not expect better of the general public. How many of you have read "Tanlac" advertisements in the leading papers of our state with the high endorsement of a reputable physician of Fayetteville, Ga.? What sort of fight against ignorance do you think he could make? How many of you have been told by your clientele that you condemned patent medicines from a selfish motive, because they know some reputable physicians recommend and prescribe them? These so-called reputable physicians referred to are, in my opinion, men who do not keep up with their profession and, as a rule, own drug stores and endorse the medicine for the few cents profit on a bottle, or more often, the nice sum of money which the sale of some fad brings into their coffers. Now if these physicians are selling or prescribing these nostrums purely for pecuniary gain at the expense of the life of an individual who oftentimes is barely able to procure the necessities of life, then there should be some law to deal with him. If, on the other hand, he does it through ignorance we should revoke his license.

A member of the firm of a wholesale drug house stated to me that they were selling car loads of a certain recently exploited patent medicine, and that they were receiving telegrams daily for shipment. Now this is true simply because of the newspaper advertisements with glaring headlines, stating that some prominent person had gained so many pounds in so many days, or "had been able to attend to business for the first time in years after taking a number of bottles of this Cure-All." Barnum never said a truer thing of the American people than that they "love to be humbugged." And there are numbers of people who readily believe all testimonials, especially those from people in their own state, and are glad to make a trial of almost anything when suffering from some malady, real or imaginary, which they feel

*Read at meeting of Medical Association of Georgia, Columbus, Ga., 1916.

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can be cured cheaper in this way than by consulting some conscientious physician. These advertisements, I confess, are very attractive and alluring, giving no hint of the thousands who take the Cure-All and received no benefit, for these are a silent crowd and would find it rather inconvenient to speak through three feet of earth. But it is useless for me to stand here and picture the effects of these drugs, and the loss of life which follows the neglect of some dread disease, the mind having been lulled to sleep by some glowing testimonial from some eminent clergyman or leader of Associated Charities. You are all too familiar with them. The main point now, is to prevent it.

I call your attention to what the prohibitionists have done in Georgia. At an extra session of our Legislature they passed a bill not allowing any newspaper or periodical to be sold which carried an advertisement of any alcoholic beverage. We should be able to pass a similar bill in regard to patent medicines. As things stand at present, this cannot be done for two reasons. First, as I have said, the people have not been thoroughly educated as to the harm these things may do, and, second, nothing can be outlawed that does not come under police control. But the time has come for us to make a start for the better control of advertising and sale of these nostrums and we must make up our minds to devote considerable time and money to the cause, for we will meet with just as much opposition as the leaders of prohibition when they began their campaign against whiskey. The nostrum makers have as much money as the whiskey people, and they, too, will resort to every means to defeat any legislation which may tend to control them in any way. Physicians, of course, are never politicians, but they should be when it comes to electing men to make and help carry out our health laws, for, as you know, the greatest asset of any nation, state or city, is her health. Then we should see to it that men are elected to our General Assembly who will pledge themselves to assist in passing laws, to save the lives of our fellow-men and stop the leakage from their purses. Suppose every physician in any county should say to their candidates to the General Assembly "We will lend you our very best assistance if you will stand on a platform to control the advertising and sale of patent medicines, and unless you do you will have our combined op-

position." Don't you believe he would get what he wanted? Go home and try it. This year gives you a chance to start your campaign. In my county we have only one candidate for the Legislature, but he has pledged me his word that he would stand by us in any measure to control the advertising and sale of patent medicines. Also our Senator will ever be ready to lend us a helping hand.

We cannot accomplish everything at once, but we can make a beginning by establishing laws similar to the requirements of the Board of Health of New York City. I quote sections 117, 118 and 119 of their Sanitary Code:

117. No proprietary or patent medicine manufactured, prepared, or intended for internal human use, shall be held, offered for sale, sold, or given away, in the City of New York, until the following requirements shall, in each instance, have been met:

The names of the ingredients of every such medicine shall be registered in the Department of Health in such manner as the Regulations of the Board of Health may prescribe.

The expression "proprietary medicine," for the purpose of this section, shall be taken to mean and include every medicine or medicinal compound, manufactured, prepared, or intended, for internal human use, the name, composition, or definition of which is not to be found in the United States Pharmacopoeia or National Formulary, or which does not bear the name of each ingredient conspicuously, clearly, and legibly set forth, in English, on the outside of each bottle, box, or package in which the said medicine or medicinal compound is held, offered for sale, sold, or given away.

The provisions shall not, however, apply to any medicine, or medicinal compound, prepared or compounded upon the written prescription of a duly licensed physician, provided that such prescription be written or issued for a specific person and not for general use, and that such medicine or medicinal compound be sold or given away to or for the use of the person for whom it shall have been prescribed or compounded; and provided, also, that the said prescription shall have been filed at the establishment or place where such medicine or medicinal compound is sold or given away, in chronological order, according to the date of the receipt

of such prescription at such establishment or place.

Every such prescription shall remain so filed for a period of five years.

The names of the ingredients of proprietary and patent medicines registered in accordance with the terms of this section, and all information relating thereto or connected therewith, shall be regarded as confidential, and shall not be open to inspection by the public or any person other than the official custodian of such record in the Department of Health, such persons as may be authorized by law to inspect such record, and those duly authorized to prosecute or enforce the Federal Statutes, the laws of the State of New York, both criminal and civil, and the ordinances of the City of New York, but only for the purpose of such prosecution or enforcement.

Section 118 of the same code refers to fraudulent representation of drugs, medicines, decoctions and drinks.

Section 119. Proprietary medicines: Distribution of samples regulated. No person shall in the City of New York distribute, free of charge, or throw away any nostrums, proprietary medicines, or other substances of an alleged medicinal or curative character, intended for internal human use, in any street or public place, or from door to door, or by depositing the same upon private premises.

The provisions of this section shall not, however, apply to the distribution by manufacturers or wholesale dealers of samples of any such substance to physicians or to the trade.

Secrecy, I believe, is the strongest point of their trade, and the "wonderful unknown" the chief attraction to the buyer, so a register of their compounds would, in a large measure, mitigate the evil.

A suggestion I would make to bring about the co-operation of the general public is that we give to our newspapers for publication, at their regular advertising rates, health articles and exposures of these nostrums. This to be paid for out of our Association fund. Our columns of Propaganda for Reform in the Journal of the A. M. A. and other Medical Journals are good for our own enlightenment, but we need them most in the newspapers as a safeguard for the general public.

I trust that before this Association adjourns we will see fit to make some resolu-

tion instructing our Committee on Legislation to take some action in regard to these matters.

DISCUSSION OF THE PAPER OF DR. ELROD.

Dr. Neal Kitchens, Bullochville: I have been interested in this kind of work for many years, and I can readily answer the question why these patent medicines are exploited in the South. It is largely on account of our ignorance. Before we can get a way from being the dumping ground, we must commence at the beginning and have compulsory education. Ignorance in any shape is one of the hardest things in the world to control, and the easiest thing in the world to lose. If we can eradicate the effects that we are the dumping ground of the South, we must get rid of our ignorance. To do that, doctors must take more interest in the public schools and in lectures delivered before school children extending to the people. Let us commence now with the rising generation and educate them in regard to these things. We cannot expect to accomplish much with the old people, because they will take Tan-lac as long as it is thought to cure somebody.

Dr. O. H. Weaver, Macon: There are just a few points I wish to speak of in connection with this paper as well as the previous paper by Dr. Park in reference to physicians being examples as well as giving precepts. It has been my observation that one very bad precept to the public as to the worthlessness and danger of patent medicines is that so many physicians prescribe them. You take the prescription files of any drug store as you come to them and you will find physicians recommending antikamnia and antiphlogistin and various and sundry drugs that we do not know anything about. At any rate, they are not scientific, and that is one of the points I want to make. We ourselves are liable to that extent.

The other point is the one made by Dr. Elrod, namely, why can't we do as the prohibitionists have done? I think one reason is that our good brethren in the State of Georgia have put themselves behind the prohibition movement, whereas, to quote from Dr. Oliver Wendell Holmes, who stated the matter tersely, quack remedies go through the world on two crutches, one the babbling tongues of old women, and the other the tes-

testimonials of ministers. I do not charge them with any such thing; I do not make that as a broad assertion that all ministers furnish these testimonials, but we do know that we see frequently testimonials supporting patent medicines.

Dr. L. C. Allen, Hoschton: This is a very important subject and one that ought to be discussed very freely.

With regard to the preachers, what the gentleman who has just preceded me has said is quite true. It has not been long since we saw in glaring headlines recommendations of Peruna from preacher So-and-So, yet we know that Peruna is nothing but an alcoholic beverage. Before the passage of the Pure Food and Drugs Act we had all sorts of impossible cures advertised all over the country. We had cures for cancer, cures for tuberculosis, cures for diabetes, and cures for all sorts of incurable diseases; but since the Pure Food and Drugs Act was passed, a large number of them have been eliminated, but we still have an immense amount of fraudulent medicines advertised to the public.

Now, it seems to me, that this is one of the duties the State Board of Health might undertake. When the medical profession attacks a question like this the public is always liable to form erroneous ideas or opinions as to the motives. But the State Board of Health should take the matter up without being subjected to any criticism whatever, and it might be well for our State Board of Health to do it, because state boards in some of the states are doing it. Dr. Dowling, of New Orleans, and some of the Northern physicians connected with boards of health are doing it.

As to legislation along this line, various suggestions have been made and tried. I think something like the New York law might be well enough. If we had a law that would require any person who proposes to advertise for sale any secret or proprietary preparation shall go before the Secretary of the State Board of Health, and shall show him his formula, and get a permit from him to advertise and sell the stuff, it would be a good thing to do, and it would then be considered legal. On the other hand, if the Secretary of the State Board of Health thought it was a fraudulent preparation he might deny issuing a permit, and if the applicant was not satisfied with the ruling of the Sec-

retary he might appeal to the whole State Board. By that means we could eliminate these frauds.

Dr. J. G. Dean, Dawson: In addition to endorsing the paper Dr. Elrod has read, as a whole, I want to refer to two or three things that have occurred to me while he was reading the paper, which we might endorse and think more about. I do not think doctors as such ought to be politicians, but I do want to agree with him in that we ought to take more interest in politics than we do, especially in matters pertaining to what he has referred to. There are in this state from ten physicians to several hundred in every county, and as a united body we can accomplish a great deal in legal matters.

In connection with his paper some of the men asked with reference to the matter of soft drinks. There are, at least, two or three drinks in Georgia that most of us think a great deal of ourselves, and I have noticed a disposition on the part of us not to say too much about things we like ourselves. I heard a defense just now for cigarettes, but I did not hear a defense for tobacco. I will not undertake to discuss that matter because the subject has been passed. We like coco-cola and similar drinks.

A relative of mine a few years ago, who was a clerk for some years in a drug store, had contracted the habit of drinking only carbonated waters, carbonated drinks, coco-cola, and so forth. I received a telegram from him one day stating that he would be at my home. When he reached my home he was vomiting blood, and the next day his pulse was 160, and I thought he was going to die. I attributed his whole trouble to his drinking habits. He was not a whiskey or alcoholic drinker, but he had drunk incessantly these carbonated drinks, and I do not think as a profession we ought to set an example, as Dr. Park has said, by using these things. We ought to do better and discourage them, get behind our legislators, and make them do something that will not have monuments scattered over this country in the shape of Candler buildings, etc. This young man I spoke of, fortunately, recovered in a few days. I gave him advice, I cautioned him, and he has to this day remained better, but just how much he has restrained his tendency to drink these carbonated water I do not know. But just at this time there is in my county a gentleman who does not hesitate to

say that he wants to be a member of the next Legislature to take care of his soft drink, chero-cola. We as doctors should not countenance such things. We should see our representatives, our men who have more regard for public health than to allow such men to become our representatives in the Legislature, and I think, therefore, we should do what we can to prevent what Dr. Elrod has referred to—the patent medicine proposition, and we ought to do something about these harmful drinks.

Dr. McHatton, Macon: The question that has been brought before us by Dr. Elrod is a very timely one. There are probably in the State of Georgia today no less than fifty so-called patent medicines that are purely sold for their alcoholic contents. They say they are put out as medicines, but we know they are put out as beverages. There is no question about it.

Any man in Massachusetts or Connecticut can prescribe an alcoholic content of fifty per cent., but in the State of Georgia we, as professional men, cannot prescribe any more than from one to five per cent. alcoholic content.

We know the injury done by patent medicines, and it is astounding there has never been any legislation on the subject in our state. The effect is very insidious. A man becomes a confirmed alcoholic before he knows it and the effect is really on the better class of our community.

Let us take the question of getting a testimonial. I think that is very clearly illustrated in the average patent medicine by the legislator when the West Virginia bonds were up for repudiation. This man went on to the Legislature pledged to vote for their repudiation, and everybody was astonished that he voted for assuming the bonds. When he came back his people were incensed at what he had done. One day they said to him: "John, you have ruined your political career. You went up there and pledged to repudiate those bonds, and then you voted for the State of Virginia to assume them." They said: "John, did you ever drink a champagne cocktail?" "No, I do not know anything about it." "Then you do not know what you are talking about?" John said: "When I went up there I swore that I would not vote for the assumption of those bonds. They offered me \$5,000 for my vote. I absolutely refused. I went into a committee

room, and one of the gentlemen asked me whether I would have a champagne cocktail. I had no more intention of voting to assume those bonds than you had. I drank this cocktail. In a few minutes another man followed me in there and asked me to take another drink, which I did, and before the vote was called I walked into the hall and at once voted for the State of Virginia to assume those bonds, and, considering the way I felt, I would have assumed them myself in a short time."

Now, you can take the average good preacher, or the average good man, and by the time he has taken two or three drinks of one of the so-called medicines he will give them any testimonials they want. (Laughter and applause.)

Dr. Elrod (closing): I appreciate the discussion very much, and in reply to what Brother Kitchens has said with reference to education, I wish to say that recently, according to the tabulated reports, Georgia is nearer the front in education now than it has been for many, many years. We are improving along that line. Education comes back to us at home to start with first, and I believe there ought to be control of this man Edwards at Fayetteville, Ga. There should be some control of his kind. If there is any legislation to keep a man from doing such things as that and causing people to buy these things, who have money hardly to buy bread, for some possible imaginary trouble or one that is real, and a great deal worse than they may think, neglecting their ailments rather than to look for some physicians who might do them good, such legislation should be enforced. If we let things like that go along you can expect to have a greater mortality rate in Georgia than we are having. We cannot expect to decrease it.

With reference to testimonials mentioned by Dr. McHatton, I was talking with a representative of the W. C. T. U. a few days ago on the question of tobacco and cigarettes, and was told that doctors themselves smoke cigarettes, and that they ought to set an example to the public. Just as long as we set the example of smoking cigarettes or cigars, or in writing prescriptions for patent medicines, we cannot expect the laity to be any better.

So far as the State Board of Health controlling or correcting this matter is concerned, it seems to me the Association ought

to instruct or ask the State Board to do this, or better, to appoint a special committee on legislation to look after the matter and to see it is attended to.

So far as soft drinks are concerned, which were referred to by Dr. Dean, I am prejudiced against coco-cola or any other soft drink of that kind. It is unfortunate that so many drug stores of today have been converted into soft drink establishments and nostrum sellers. We need a few prescription druggists, and the profession, as a rule, ought to patronize these prescription druggists instead of these soft drink stands.

When it comes to the benefactors of education and the building of great hospitals and colleges, I do not hesitate to say that Emory College has been put up at the expense of the human lives of Georgia, and I think it is a bad proposition.

There is no question in my mind that in coco-cola we have a habit-forming drug. There is no question again in my mind that there are a great many people in Georgia who would not think of taking this as a beverage any more, or as a medicine, but because this man gives to the university and to two hospitals he is considered a great philanthropist. I do not consider him a philanthropist in any respect because his money has come from the start from the lives of people of our state. I am prejudiced for that reason.

I was reliably informed a few days ago that the Cooper Medicine Company has the sales right to sell some one man in each state, and the man who controls the sale of tanlac in Georgia sells it to the Jacobs Drug Company at eighty cents a bottle and at \$9.60 a dozen. This man who represents Georgia has invested \$125,000 in Atlanta real estate. Who has paid out that \$125,000 for that man to buy that property? The poor suffering humanity of Georgia has done it.

Just a few days ago I was talking with a man who told me he had been sick for some years with indigestion, and he had not found anything or any doctor who was able to do him much good. That man was gradually reducing himself to death by not eating enough. He took tanlac: it tore him all to pieces, and I have been three weeks trying to bring him back so that he feels like himself again. It seems to me that there is not much in tanlac that will tear a man up.

There is gentian and cascara and sherry wine.

I think the Association should get busy and see that there is some legislation enacted at the next meeting of the Georgia Assembly in regard to these matters.

Dr. T. J. McArthur, Cordele: I would like to ask if the doctor referred to is a member of the Medical Association of Georgia?

The Secretary: He is not.

Dr. Elrod: This man is an eclectic and does not do much practice. Dr. Clark might give us some information on that line.

Dr. M. A. Clark, Macon: He is not eligible to membership in the Medical Association of Georgia.

HOW WE EXPECT THE ELLIS PUBLIC HEALTH BILL TO BENEFIT FLOYD COUNTY.*

By Dr. M. M. McCord, County Health Commissioner, Rome, Ga.

Floyd enjoys the distinction of being the first county in Georgia to adopt the Ellis Public Health Bill, leaving out Ware County, which adopted it by the action of two grand juries, and then withdrew the action of the second grand jury before that body adjourned. Glenn was the second county to adopt the bill, and these two were the only counties working under the Ellis Health Bill on January 1st of this year. I understand that several other counties have joined us since January 1st, and probably a score of other counties, however, have made the first grand jury recommendation and are now waiting for the second grand jury to make it an adopted law.

Our work in Floyd County started actively on January 1st this year. While we now have full power to enforce better hygiene and sanitation, it is not our purpose to enforce any drastic or radical health regulations this first year unless it might be in some emergency cases to prevent the spread of disease. Of course, this is a new work in our county and, consequently, the masses of the people have to learn gradually what our board proposes to do and how best to co-operate with us. Our first year's work will

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necessarily consist almost entirely in publicity and education.

In Floyd County we have more than eighty schools, scattered widely. Inasmuch as medical inspection of school children is one of the most important duties of the health officer, we have begun at that point.

In the matter of inspection, I visit the schools, without giving previous notice that I am coming. I speak to the school body in the simplest manner possible, trying to impress upon even the youngest pupil how he or she can take part in preventing the spread of disease. A study of physiology and hygiene has been much neglected by a large majority of the pupils of our schools, consequently the children are allowed to grow up to manhood and womanhood without the slightest acquaintance of their bodies; and knowing nothing about their bodies, they know not the importance of keeping disease away, and, furthermore, know not how they may protect themselves from disease.

After a lecture to the school body, I go through an inspection of the school in practically the same manner as it is done in our large towns and cities over Georgia. I take the names of all showing defects and keep an office record of such. I send a card to the parent of each child that indicates a probable defect and request such parent to consult the family physician, specialist or dentist as the case might be. We have been much pleased thus far at the ready response of parents to these requests, as many of them have already begun having these defects corrected.

By beginning the work in the rural schools we form a nucleus of public health for each community. We have already begun lecturing in churches, school houses, court houses, to women's and men's clubs and to public gatherings of every sort, at such times as suitable engagements can be made. We propose to give the people of our county all the facts and figures that come into our possession relative to disease prevention. We believe that before we can expect their enthusiastic co-operation that it is essential that they know something about what has been accomplished elsewhere, and what we propose to do in disease prevention.

One of the strongest attacks that we are making is on the open surface privy. Inasmuch as human excreta is not only the means for spreading typhoid fever, but many

other diseases just as fatal, it is our purpose to talk privies, sing privies and dream privies until every home in the county that is unsewered has a sanitary privy. Thus far, even before our campaign against the open surface privy has hardly begun, quite a number have planned to rebuild them to correspond with the plans submitted by our board.

The Massachusetts Cotton Mills in Georgia, located at Lindale, in Floyd County, has a population of some 5,000 people surrounding it (and this practically constitutes the town of Lindale). This town has become considerably awakened on the great importance of sanitary privies, and as a consequence they are now tearing down all their old ones and rebuilding according to plans and blue prints which we submitted, and have inaugurated a first-class scavenger system. These people now offer us their full co-operation in every manner that will secure better health conditions for the people of Lindale.

One important matter that serves as an obstacle to our work in Floyd, and which to my mind is a reflection on the intelligence of Georgia, is the lack of law in operation for the collection of vital statistics. How can we ever know whether we are getting any results in Georgia, or not, if we do not keep books on births and deaths and the occurrence of disease?

Our physicians should get squarely behind this matter and see that a law on vital statistics is put into operation at the earliest possible moment. While we shall be handicapped in Floyd until the state takes this step, yet we expect to put a system of vital statistics in force in our county in the near future, which, we trust, may give us a reasonable degree of accuracy until the state at large puts it into operation.

To get the best results in county public health work it is absolutely essential to have the enthusiastic co-operation of all the local physicians. We are glad to say that the physicians of Floyd are all with us to a man. We are all pulling together for the prevention of disease and the conservation of human life.

We should not be discouraged in the work of public health because occasionally we meet a little antagonism with an old skeptic. There are skeptics opposing every good move. These old skeptics that can see no good in any move for the elevation or betterment of

mankind will sooner or later pass to their reward, so we should go ahead with our educational work with the young, and with those of our older ones that will allow an appeal to reason, and the next generation will certainly bring the most marvelous results in disease prevention.

I may add just here that we have been fortunate in securing the United States Public Health Service for work in Floyd this year. Ten of the Government's Public Health Service men are now on the job in this county and are making a full sanitary survey of the entire county, visiting every home and taking part in every other way in giving the work better publicity before our people. It will take them about six months to finish their survey in Floyd. We have been exerting every effort at our command for some months past to secure this survey by the National Health Service.

We are especially gratified with our success, in view of the fact that only one county in each state may have this survey at present, and Floyd is the fortunate county in our state for this year, at least. The United States Public Health Service at present is working only in three counties of the entire nation, but it is the purpose of the Government, I understand, to make a sanitary survey of eight counties this year throughout the United States.

Inasmuch as Floyd is the leader among Georgia Counties in taking up prevention work under the Ellis Bill, and as we are also fortunate in securing the United States Public Health Service survey, we trust our work in Floyd may become a nucleus for larger efforts in public health work in all parts of the state. We shall be only too glad to have any county send a representative to our county at any time, and it will be our pleasure to give him the full benefit of all we have gained thus far. While we are interested first in Floyd County, yet we have a deep interest in the cause of humanity everywhere.

opportunity of having the privilege of saying a few words to you.

I have been attending your annual meetings now for five or six years, and have been each year very much interested in the various questions brought before your Association. I have worked with you men who are doing so much. You are doing more than any other class of men for the uplift of humanity, and for that I appreciate your efforts and honor you all the more.

In regard to this measure, I am in favor of any measure looking towards the suppression of these patent medicines, and I will say right here that I will lend my best efforts for the furtherance of the Vital Statistics Law, and I hope it may soon be put into operation. It is a helper for the Public Health Law. The Public Health Law is intended for the purpose of providing a system for building modern sanitary methods for the prevention of disease. There have grown up two classes of physicians, one class to try and cure disease, and another to try and prevent disease, and they are called health officers, and the prevention of disease is one of the great essentials of this law. We have a State Board of Health to supervise public health work. We have had it a long time, but its power has hardly extended beyond the walls in which it was housed. We had to find a laboratory, but they could not get it and do the work. This law, passed in 1914, provides for a local Board of Health in each county in the state. We did not have it prior to this, so that we will have a local organization now. The Superintendent of Schools is Chairman of the County Commissioners, the County Superintendent being put there because a large part of this work is in the schools and the greatest part of public health work is education. The Chairman of the County Commissioners is put there to see that there is no waste of public funds. The balance of the law remains as we had it before. There is one physician a member of the County Board of Health, elected by the grand jury, and you should go home and see that this is attended to at once. The other portion of the law goes into operation under two successive grand juries. The second grand jury makes it a law in the county that we have a whole time health officer doing the work. There is one provision in the law which some of our counties do not seem to understand what is intended by it. The

DISCUSSION ON THE PAPER OF DR. McCORD.

Mr. Ellis, a member of the Legislature, was extended the privileges of the floor and asked to speak on Dr. McCord's paper.

Mr. Ellis said: I certainly appreciate this

County Board of Health has a right to levy a tax for health purposes, but the County Board of Health has not the right to levy a tax until the portion of the law providing a whole time health officer has been put into effect in that county. This law provides that we must have a man who shall give his whole time to the duty of the office and must not practice medicine.

When this law was drawn, copies of the laws of every state in the Union and of every country in Europe were secured, and the best features of those laws were taken and incorporated in this law, making it simple and effective. It has been pronounced by all men who are interested in public health one of the best laws every drawn or prepared. This is building up a system, understand, and we must, if we are going to have a system, have competent men to do the work. The men who are to do this work should be well fitted for it. If we do not have that, we will have one kind of system in one county, and another in another, so that we will not accomplish very much. We have got to have a regular system for doing this health work the same as in school work. We have a system, and this is the building up of a system. If we will put it into operation in every county it will mean much to our state.

Now, Mr. President, if I can have a few seconds more, I would like to give you some figures I have secured from Uncle Sam. When I received these statistics I was so astonished that I hesitated to give them publicity, and I waited a month before I did so.

President Roosevelt, as many of will recall, appointed a commission on natural vitality to work in conjunction with the 100 presidents of life insurance companies. They went over the matter of conservation of human life, and gave out a report in which they say in round numbers that 1,500,000 people die in the United States annually, that is, 15 deaths to every 1,000 of population. Those figures are for the years 1908 and 1909. We do not keep accurate vital statistics in Georgia. There is a very large number of men, women and children who die annually of preventable diseases that ought not to die, according to physicians who study disease. Let us take Georgia. With 2,600,000 population in this state, in 1910, according to vital statistics, there were 39,000 deaths. Forty-two per cent. of that is 16,400 or 16,500, that

is, 16,000 people die in Georgia every year from preventable diseases.

When Georgia sent her men to the front during the Civil War there were not that many killed in battle in the whole war.

What does it cost? The same committee reported that it costs the United States for preventable diseases \$1,500,000,000 per annum. Give Georgia her part, according to population, and it costs per capita approximately \$16.71 per annum. Tuberculosis costs the United States per annum \$1,400,000,000. With over \$3,000,000,000 for preventable diseases, or one-ninth of the cost of the horrible war in Europe for eighteen months. A statement has been issued regarding the European War to the effect that \$27,000,000,000 have been expended already, and yet we expend every year in the United States alone \$3,000,000,000.

I hope you will get this law in operation. It is the greatest economic measure passed by the Georgia Legislature. It is the greatest humanitarian law that challenges the attention of the Georgia people. Go home and do something for it. (Applause.)

Dr. L. C. Allen, Hoschton: There is no doubt but that the question of public health work is in its infancy. Preventive medicine has just started. Few of us—in fact, none of us—realize its tremendous possibilities. In the near future, a great deal more attention will be given to public health work and to the prevention of disease than we give to it now. Our children will give more attention to it than we do. In fact, I believe that public sanitation and the prevention of disease are destined to revolutionize the civilization of the world.

Now, whenever you approach a city coming in on a railroad train, when you get within the limits of the city and begin to get into the section where the tenement houses are located, there are two most conspicuous things that attract your attention, namely, great big signs of coco-cola and innumerable disgusting open privies. I think I counted about twenty on one square as I came into Columbus yesterday; yet Columbus is no worse than Atlanta or Macon, but when you get out of the tenement section and get into the city proper you do not find them. As a matter of fact, sanitary conditions in the cities proper are better than those in rural sections.

In the past, very nearly all public health work done in the United States, particularly in the South, has been done in the cities and larger towns. The rural sections have been absolutely and wholly neglected.

This Public Health Bill of Mr. Ellis offers us the first opportunity we have ever had of carrying public health work out into the rural sections among the country people. It is a mistaken idea that sanitary conditions in the country are better than they are in the cities.

I noticed the other day a statement from Dr. Woods, of Columbia University, where, after an investigation, he stated that the physical defects of school children in the rural sections were greater than those among city children. And that statement is not surprising to me. Disease and poverty go together. In Georgia 70 per cent. of our farms are cultivated by tenant farmers. That means poor people. It means ignorant people. It means unsanitary homes.

You hear a great deal said about the condition of the children in the cotton mills. You pass laws for their protection, but, gentlemen, candidly, how much better off are the children in the cotton fields than those in the cotton mills? How much better off, from a sanitary standpoint, are the homes of the tenant farmers, bringing up their children in the hot sun, dirty, ragged clothes, and dirty beds to sleep on, poor houses to live in, poor food to eat, and poorly cooked—I say how much better off are they than the children in the cotton mills?

Hookworm disease, malaria, tuberculosis and typhoid fever are common among these country people.

Now, if we will put this health law into operation we will be enabled to make a start in bringing about better conditions among the rural sections.

I referred to coco-cola signs. I am not prejudiced against coco-cola. I think these caffein drinks are an evil, but I would not say that all soft drinks are an unmitigated curse. They are perhaps an evil, but I think that soft drinks made from fruit juices in carbonated sweetened water are not so objectionable, and especially less objectionable than beer and wine and whiskey, and I think in the evolution of the habits of a people they may have perhaps served some useful purpose.

Dr. A. G. Fort, Atlanta: I was much pleased with the paper of Dr. McCord, because I have been interested in that kind of work for the last six years. He brought up the question of notification of schools, or rather of not notifying them, but dropping into these schools and going ahead with the medical inspection of the school. My experience along that line has been that if you go into a school to examine the school children you will find that 25 per cent of them will have stage fright. They will absolutely refuse to be examined, and no one can reach them, and I think we accomplish possibly more by notifying them the day before and in having the parents present. By so doing we accomplish two things: We examine the school children and gain the parents' co-operation in our work, and we can call their attention to any defects found in the children and suggest such remedies as may be necessary, or rather suggest that the children be taken to their family physician for treatment.

Before advocating the sanitary privy in a school or home, I should think, as public health men, we should come to a definite conclusion as to what a sanitary privy is. Personally, I am not satisfied with anything I have ever seen along that line. I believe most of them in the course of time will reflect upon public health work.

Five and one-half years ago I had the pleasure of inspecting or visiting schools and school children in one of the South Georgia counties. I found on investigation that in two-thirds of the schools there were no privies. The matter was taken up, and in that county there is only one school that has any privy, and eighteen schools have sanitary toilets. This means the eyare closed in and the seats are closed in a fireproof vault. I do not know whether they have been used this year or not, but personally, they are abhorrent to any man who approaches them. Until we get some means of having these things properly taken care of and of installing a type that will produce results, I am fearful that by advocating a certain type we will injure the possibilities of the extension of public health work.

One of the greatest obstacles we have had to overcome has been the indifference of the medical profession towards making reports. They have never made reports, and it would be a matter of time to educate them up to

it. But you have to help the man in your county, work with him, and when Mr. Smith is quarantined on account of diphtheria, do not tell him and his family that 60 per cent of the people in the county carry diphtheria germs in their throats, because that would interfere with the work of the health officer. If you shake the confidence in your health officer, it deprives you of the value you can receive from his work.

Dr. M. M. McCord, Rome closing): I appreciate very much the discussion of Colonel Ellis, Dr. Allen and Dr. Fort.

In reference to notifying pupils, I have tried both ways. When I notified them I did not have them to examine at all. They seemed to be troubled with fright. The teacher could not get any studying out of the pupils, and they seemed to have their minds concentrated so much on what that examination was going to be until it was hard to get them back the next day. Therefore, I came to the conclusion that if I visited the school quietly, without giving any previous notice, I could achieve better results in the way of examination. By the way, I visited the schools the first time in conjunction with the county superintendent of schools, who is also a member of the board of health. He helped to ease matters over with the pupils. We have had no trouble worth speaking of about any of the pupils. Some of the pupils during our first visit seemed very much frightened, but I anticipate no further trouble whatsoever.

In reference to sanitary privies, that is a matter that will come up from time immemorial for discussion simply because the United States Government, the State of Georgia and every other state have different types. But the principle is the same in all. If we have a fireproof vault, with a water-tight container, we have what we want, whether it is made in the form of a septic tank, or whether it is the one advised by the United States Government with a container.

Georgia ranks as the fourth from the bottom in illiteracy. I may be mistaken, but I think I have been told that. I believe one way of diminishing the amount of illiteracy among our people is to educate them in matters of public health, and I feel that if we are to accomplish anything in public health work, we have got to lay that down as one of the principal points in connection with the work. The people should know what we propose to do and to accomplish. Let us give

them statistics from the standpoint of public health, and try to educate them to see the matter as we see it, and when we get the laity over the country, in the rural sections, to see it as we see it, they will believe as we believe.

MANAGEMENT OF DIPHTHERIA EPIDEMICS.*

By **E. E. Murphey, M.D., Augusta, Ga.**

In every municipality from time to time there arise outbreaks of communicable disease which give trouble to the health authorities, anxiety to the patients and income to the doctors and undertakers.

During the months of May, June and July the city of Augusta, a city of some fifty-odd thousand inhabitants, was free from diphtheria with the exception of two sporadic cases. In August these two sporadic cases increased to five. In September, the month of the opening of the schools, there were 22 cases; in October, 44, and in November, 21. This increase from 5 in August to 22 in September gave considerable alarm. In other words, the 44 cases in October and 21 in November not only gave us cause for anxiety, but alarm.

The problems which were presented for solution then were, what we should do to control what was seemingly an impending epidemic of diphtheria, if we could dignify the occurrence of 99 cases in 90 days as an epidemic. If we did not have an epidemic we had a fair promise of one.

How is the health officer to handle this particular situation? What was he to do? First, to control the disease; second, to control the parents and to clear up the situation as rapidly as may be. The anxious mother in my own community is just as prone to hysteria, which is impelled through an excess of affection for her offspring, as any one, and maternal affection reached its flood tide in my own town.

The first proposition was, should we close the schools? That was one of the problems which was brought forward by a great many people. We answered emphatically no; we should not close the schools, because in the

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schools, at least, we had the children surrounded for a certain number of hours throughout the day, during which time we could subject them to such inspection and supervision as might be necessary and separate those who were infected or carriers of the infection from those who are not. We kept the schools open and confined the work to rigid inspection of the school children. We have routine inspection of children for ordinary defects which occur among children of that age, but this was a question of special inspection with the idea of determining which children were carriers in the city. That involved a matter of some several thousand bacteriological examinations. We made cultures from the throat of every school child. We found three schools particularly to be infected, and we removed from the schools in the months of September, October and November 221 carriers which were identified as carriers of diphtheria by the municipal laboratory. Of these 221 carriers which were sent home, seven developed diphtheria after they had gone home, and they were shut off from communication with their fellow pupils.

Having identified the carrier and sent him home, what is the next step which should be pursued? First of all, placard the house as the house of a diphtheria carrier, to keep these children from associating with other children and to educate the family as to what is the difference between a carrier of the disease and a person who has the disease himself. At first, there was an enormous amount of confusion, not only among the laity, to the shame and sorrow of the medical profession of Georgia, but among the medical profession as well. We found in many places there were some eight or ten physicians who were unaware of the difference between a carrier of the disease and one who has the disease. As to the clearing up of the carriers, the cases occurred in those who were well-to-do and they were referred to their own family physician for clearing up their throats, but our contagious and infectious disease physicians and school inspectors were absolutely at the disposal of any member of the public who would avail themselves of it, and we use a great many things for clearing up of the infected throats. Perhaps the most popular agent for ridding the throat of diphtheria carriers was found to be argyrol. A most efficient, fresh liquid culture of the lactic acid bacillus in a little

while would clear up most of our cases which resisted argyrol quite promptly and satisfactorily. The problem arising from the isolation of these carriers was as to whether or not the children should be immunized against possible diphtheria, although we took the attitude it should not be done unless under careful supervision there was some particular reason to believe that these children were susceptible.

We can, first of all, discuss for a moment the possible dangers of immunizing approximately all children against diphtheria. When we do that we sensitize all susceptible children to a valent serum and over a varying period. But it becomes a matter of very serious consideration whether we dare give a child again any kind of antitoxin or antiserum which is produced by the alien serum, thus rendering these children liable to anaphylaxis. Failure to recognize the possibility of that resulted in serum sickness in two or three cases. One child was immunized against diphtheria in May and was attempted to be reinimmunized in September because of the fact that child had been exposed to a carrier. As a result of that we got a sick child, a very hysterical mother, and a very badly frightened doctor. We do not necessarily insist that even a carrier shall be immunized, and we did not do it for this reason, that we have certain tests now which make it possible for us to determine, within reasonable limits, the degree of immunity that a child possesses against diphtheria infection, and that is the Schick continuous reaction of diphtheria toxin, coming in the class with the Von Pirquet reaction against tuberculosis, and that is, the injection into the layers of the skin of any child who may be in the surgical stage a diluted solution of diphtheria toxin which can be found prepared by the houses who bring out vaccines and sera for the use of the general practitioner who has not laboratory facilities at his disposal and which can be prepared in any first-class laboratory. We get a reaction which, when positive, indicates that the individual is subject to diphtheria, and when negative it shows the patient is insusceptible and therefore immune, and may be left with the single exception of clearing up the throat, to go on without any danger to himself or as a menace to the community.

In all cases where an attempt to control an epidemic in a city or a small town is

made, it is better for the future welfare of the children for any future emergency which may arise when they need hog serum in one form or another, to have their immunity tested by the Schick test before immunizing them, so that we may have no fear of subsequent serum sickness because of the fact that they have had an unnecessary and useless injection. If a child is immune there is no necessity in trying to make him immune any further.

We did not take all of our cases in this way, only a certain number of carriers. Next year, in our school work, we will take every school child in our city and make a test for the reaction, so that we have a card index to support the official or initial data of the school inspectors as to whether or not they react to this particular test, and whether they react or not it is immediately available in any future disturbance. One striking thing which came to us was this: We believed—and I think it was quite rational we should believe—when the schools opened and we had this development of diphtheria among children, it was a contact infection acquired in school. We charted on a large map of the city every carrier and case, and we found to our surprise that this was not apparently a school infection by contact of one child with another at school, but a playground infection—an infection by blocks and by groups of children with whom they associated after school hours rather than by schools. We had, therefore, three or four or six carriers thrown out of three different schools according to ages and grades of children. When we charted them on a map we found that these children lived next door to one another and stayed with one another in the afternoon, and in this way we got valuable information in regard to the transmission of this epidemic. We did not suspect that a child in the playground was liable to become infected in playing with its mates during the half hour recess. Our common assumption was that the way the children got their infection was in the school, but it was brought out that in the afternoon play hour, when the children associated with one another with child-like democracy and came into very close contact with one another, they contracted the disease in that way.

I bring forward these things more to develop a discussion than to furnish any particularly new information.

The points which I wish to particularly stress are these: To control the health of the children we should give them the best possible chance, in the first place, to run them out, and sort out those which need attention, as in the schools, and put them in places where they are easily accessible to health authorities. The second point I would like to stress is that because epidemics occur during the school year is in itself no proof and no valid basis for the conclusion that the epidemic started in the school or was propagated there. The first point is to issue just a warning against the inadvisability of unnecessarily immunizing immune children, and to add a word of caution about injecting not only alien serum into children who have been sensitized, but any kind of antitoxin or antisera in the immediate attacks.

DIAGNOSIS OF GASTRIC ULCER AND CARCINOMA BY THE ROENTGEN RAY.*

W. A. Cole, M.D., Savannah, Ga.

The value of an early diagnosis of gastric cancer is shown by Mayo's statement that 36 per cent of gastric cancer have been cured by surgical procedure. His further statement that an early diagnosis can be made only by an exploratory laparotomy is paradoxical in that it eliminates, to a large extent, the probability of such diagnosis; because patients will not usually submit to an operation until they have definite symptoms, and such symptoms do not generally occur until the process has passed the incipient stage. In 1913 W. J. Mayo stated that "The early diagnosis of cancer does not depend on any sign or symptom due to cancer itself, but on the mechanical condition produced by the growth. Therefore, in cases of suspected cancer of the stomach the recognition of such mechanical conditions should be the first aim of the diagnostician." In enumerating its signs he placed first, the presence of a palpable tumor in 67 per cent; second, food remnants, and third, the Roentgen ray. Since that time work at his clinic and elsewhere has compelled him to change his order

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of enumeration so that now he places the Roentgen ray findings first with a percentage of 93.

This means much to the patient in that whenever he has symptoms suggestive of beginning cancer he is referred to a roentgenologist who painlessly and without any risk diagnoses his case equally as efficiently as can the surgeon by an exploratory laparotomy. By this method many cases will now be recognized in their incipency, whereas they would go on to an inoperable stage before recognition because the patients would not submit to the expense and discomforts of an exploratory operation. Thus the percentage of cures of this dreaded disease will be greatly increased.

In gastric ulcer the radiologic diagnosis is a little less certain, but even here 65 to 70 per cent of cases show diagnostic signs and the percentage is growing higher as we learn better to interpret what the plates really show.

A discussion of the various technics now employed by the different radiologists in x-ray examinations of the digestive tract would be superfluous, but a brief description of the method we use might not be entirely out of place. Patient follows his regular routine until the morning the examination is to be made; he reports to the x-ray room without having had any breakfast and he now drinks rapidly from 12 to 21 ounces of buttermilk in which is suspended 9 to 12 drams of bismuth subcarbonate. Then he stands with his abdomen firmly against the plate holder and the first exposure is made; time 1-2 to 1 second. Plates are made at intervals of 5 to 30 minutes until a sufficient number are completed to show all the conditions in the stomach, some being made in the prone position also. When the required number is finished the patient is let rest, i. e., if able to be up he goes about, if not he rests in bed without food or drink until six hours after the first exposure. Then the last plate is taken to see if the stomach has emptied itself as it should normally. When the plates are developed they are placed before a good light where they are studied individually, collectively, and superimposed for comparison.

It should be remembered that in the large clinics, where they have all facilities for clinical examinations, it has been proven that fully 50 per cent of cases sent for x-ray diag-

nosis show an organic lesion. This is beneficial in that being assured that there is no carcinoma nor ulcer present one can with better success treat medically the functional trouble.

The x-ray diagnosis of lesions of the stomach is based upon the departures from the normal form, tonus, position, motility, capacity, contour peristalsis and mobility of the organ, together with certain extraordinary phenomena, such as diverticula filling defects and incisurae.

A brief review of the so-called normal stomach might aid us to a better understanding of abnormal conditions. Two general types of stomach are usually considered as normal. 1—The steer-horn; 2—the fish-hook type. The former, as its name implies, is supposed to resemble the horn of a steer, being broadest at its cardiac end and narrowing toward its pyloric end. Relatively this type is infrequent and when seen is usually in those persons with deep chest and broad costal arch, such as is found in muscular men, more rarely in women. The second, or fish-hook type, is far more common. It has a more uniform width, is less narrow at its pylorus, and its middle portion is more dependent, resulting in a j or hook shape. It is found in nearly all women and many men and almost invariably where the habitus enteroptoticus is noted.

By tonus we mean the ability of the gastric musculature to maintain tonic contraction. The normal, toned stomach grasps its contents firmly and hence is tubular in form, whether the amount of ingesta be large or only moderate. Exaggerated tone is spoken of as hypertonic, diminished as hypotonic and absence of tone as a tonic. The hypertonic, usually the steer-horn type, is short, of small diameter and held well up in the abdominal cavity. The hypotonic is rather broad at its lower pole and the bismuth tends to settle below the cardia. The atonic, which is rare, hangs as a flaccid bag with a basin-like lower pole; the walls of the lower cardia and upper media are more or less apposed and the gas bubble is fusiform in shape.

The position of the stomach depends somewhat on its form and tonus. The steer-horn is high and obliquely placed, its lower border is well above the umbilicus. In the fish-hook type the cardia and media usually hang almost vertically, the pyloric portion curving horizontally to the right, then upward. In

both forms the normal position of the pylorus is assumed to be about one inch above and one inch to the right of the umbilicus.

The motility of the stomach is its emptying power; the time of evacuation depending, of course, upon the character of the food. Experience has shown that its failure to empty itself of the bismuth meal in six hours indicates a pathologic condition.

24 to 30 fluid-ounces of ingesta will fill an average adult stomach comfortably. If the capacity is markedly more or less it is abnormal.

The stomach is fixed only at its cardiac and pyloric ends; if fixed elsewhere it is abnormal.

The radiographic signs of carcinoma of the stomach, I should say, are filling defects; altered pyloric function, i. e., gaping or obstruction of the pylorus; advanced position of six-hour meal; absence of peristalsis of involved area of stomach wall; diminished mobility; loss of flexibility; diminution in size of stomach; reversed peristalsis.

The filling defect is of cardinal importance in x-ray diagnosis of gastric carcinoma. It is caused by the projection of the tumor mass into the lumen of the stomach and so shows upon the plate. Obviously filling defects varying in size according to the extent of involvement. They also vary somewhat in appearance according to the character of the tumor. The encephaloid or medullary cancer shows large, usually multiple irregularities, while in the scirrhous type the indentations are small, sometimes absent, although the narrowing concentrically may greatly reduce the caliber of the stomach, especially at the pyloric end, giving it a funnel shape. Invasion of the media by the growth may give a marked hour-glass stomach, the loculi being united by a more or less tortuous canal.

True filling defects must be differentiated from indentations of the stomach wall by a gas-filled colon, adjacent extrinsic tumors of the liver, spleen colon or mesentery and from spasms. This is fairly readily done usually.

Alterations of pyloric function almost invariably accompany gastric carcinoma and may reveal itself by either free and continuous patency or marked obstruction. It is often noticed in a cancerous stomach that the pylorus remains gaping and the bismuth ingesta flow continuously through it. On the other hand, pyloric obstruction, varying in degree with the situation and size of the

tumor is frequently seen. It shows itself by a distinct, often large residue from the six-hour meal. If there is no obstruction the bismuth is accelerated in proportion to the degree of hypoacidity. Ordinarily at or near the cecum after six hours, it may be accelerated to have reached the sigmoid or even the rectum. This in a gross way is a measure of the degree of acidity.

Interruption in the peristaltic waves is shown. A wave will progress to the affected area, skip it and take up its course beyond.

Lessened mobility en-mass and notable loss of flexibility of the wall of the stomach are frequently observed in this condition.

All these signs taken together enable us to diagnose as high as 93 per cent of cases and with care and regard for the clinical facts the Roentgen ray findings also often furnish valuable information as to the advisability of operative procedures. It is well known that extensive involvement of the cardia or of the cardia and media are hopeless surgical cases, whereas carcinoma of the pylorus offers a better prospect, especially if there are no metastases.

The x-ray signs of gastric ulcer are generally classified in two groups. First, those those signs which are cardinal and more or less pathognomonic; second, those which are merely suggestive. The cardinal signs are, 1—visualization of the bismuth-filled crater of a callous ulcer; 2—the diverticulum of perforating ulcer; 3—incisurae. The suggestive are acute fish-hook form of stomach with displacement downward and to the left; delayed opening of the pylorus; residue in stomach after six hours; lessened mobility; settling of the bismuth to the lower pole of the stomach, such as is seen in hypotonicity or atony.

A bud-like projection from the bismuth-filled stomach, usually on the lesser curvature, when found, is fairly easily recognized, and it is not closely imitated by any condition that I know of, but represents the crater of a callous ulcer.

The diverticulum of perforating ulcer is quite as characteristic. It may be anterior into the liver or posterior into the pancreas, and a continuation of the ulcerative process results in an excavation which shows a rather regular, often spherical, outline. It may be a miniature stomach just outside of the stomach wall, and frequently it retains bismuth after the stomach is empty.

Organic hour-glass contraction of the stomach usually accompanies diverticulum. Organic is differentiated from spasmodic hour-glass stomach by its persistence after energetic palpation or after the administration of belladonna for two or three days, occasionally, however, both of these measures fail to relax a spasmodic hour-glass. Organic hour-glass may also occur in penetrating ulcer without diverticulum.

By incisurae we mean an indentation of the greater curvature, usually in the vertical portion of the stomach, of varying width and depth. It is supposed to be due to spastic contraction of the circular muscle fibers caused by irritation of the ulcer in its plane; possibly in some cases also due to infiltration and stiffening of these fibers. It is usually greater in depth than a peristaltic wave, and it does not move toward the pylorus as does the latter. It persists in spite of vigorous palpation, nor does belladonna efface it.

Incisurae must not be confused with the indentation of the greater curvature caused by pressure of the lower pole upward by a gas-filled splenic flexure. Pictures taken in the standing position will not show this.

In an ulcerous stomach, which is hypotonic the bismuth may settle below the level of the incisurae; plates taken while the patient is prone will overcome this, hence the necessity of taking pictures in both the prone and the upright positions.

False incisurae sometimes occur in which no ulcer or other organic lesion in the stomach can be found. They are probably due to spasm from reflex causes and have frequently been noted in patients having chronic appendicitis. Rarely such incisurae may be due to a mesenteric band passing over the greater curvature and attaching to the hepatic flexure, this constricting the stomach.

A hypotonic stomach of acute fish-hook form displaced downward and to the left is frequently associated with ulcer. It results from scar contraction on the lesser curvature, drawing the pylorus to the left.

Delayed opening of the pylorus apart from the actual pyloric obstruction, is almost invariably seen in gastric ulcer associated with hyperacidity. Delayed opening is also frequently seen as a reflex from disease of the appendix or gall-bladder.

Most cases of gastric ulcer show a residue from the six-hour meal. The amount varies from only a fraction to one-quarter of the

meal. This is most frequently noted in perforating ulcer, rarely with simple or callous ulcer. In some the residue is due to spasm of the pylorus, but in others, invasion of the pylorus by the ulcer produces actual obstruction.

A hypotonic stomach, in which the bismuth settles to the lower pole, is suggestive of ulcer, though it is only corroborative evidence and is not a constant sign.

From what has been said one gathers that none of the x-ray signs of gastric cancer or ulcer are pathognomonic; though, as previously stated, the roentgenologist can recognize and differentiate these conditions about as certainly as can the surgeon at an exploratory operation without the aid of microscopic sections of the specimen. The relative value of the signs enumerated, taken individually and collectively, can be learned only by experience. The Roentgen ray merely furnishes valuable contributory evidence as to the presence and nature of a gastric lesion, so valuable that whenever available it should be regularly employed. But the final judgment should always take into account all of the evidence of every kind, i. e., the history, the physical, laboratory and x-ray findings and upon all of these the diagnosis should be made.

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ANONYMOUS CONTRIBUTIONS, whether for publication, for information, or in the way of criticism, are consigned to the wastebasket unread.

NEWS: Our readers are requested to send us items of news of a medical nature, also marked copies of local newspapers containing matters of interest to physicians. We shall be glad to know the name of the sender in every instance.

FEE SPLITTING.

The early Teutons while yet in a semi-savage state realized the necessity for custom or law to govern their relations with each other and kindred tribes, and the Bund was evolved. The wise men of the Saxons were collected in council to determine the destinies of their tribesmen, and was born the Wittenagemot. These primitive courts, founded upon custom, have been superseded by the complex jurisprudence of a later civilization, but their effectiveness has hardly been surpassed because they expressed the will of the people, without which no law or custom may truly operate.

With the transition of medicine from the custody of the Greeian hierarchy to its present highly specialized and independent status there have been observed definite and understood rules among its practitioners concerning the relationship of the physician to his patient and among physicians themselves.

Such constitute that admirable and most worthy unwritten compact, first condensed in the Hippocratic oath, known as medical ethics.

That the ethics of the profession are largely observed is apparent, but in the great mass of humanity bearing the banner of Caduceus the perpetual element of "human nature" has at times asserted itself in derelictions which justly bear the stigma of public and professional censure.

Particularly is this deservedly the case in that transgression, which is largely a child of the present commercial age, known as fee-splitting. So prevalent has been the practice in several states that statutes have been enacted which define the offense as a misdemeanor. The retiring president of the State Medical Association, realizing the growing danger of the movement in some localities of this commonwealth, in his annual address petitioned the committee on legislation to promulgate an order to govern and alleviate such practices, and present the same to the next session of the Georgia legislature.

While this latter is manifestly a movement in the right direction, it is a matter of concern whether it would be the more practicable effort to pursue at the present time. Here in Georgia, where ethics have been so paramount in the minds of most of the profession, and where the "regular" is so highly regarded by the laity that the Osteopaths, Christian Scientists and other cults have at best attained a negligible prestige, it would seem lamentable, indeed, to advertise before the public a weakness which we may hope to stamp out through our own vigilance.

Then why can we not among ourselves solve the problem without resort to the courts of the land? It is said that ethics are but expressions of the instincts of gentlemen, and it is opportune that the constituency of the Medical Association of Georgia demonstrate the efficacy of the Association's influence. Instances of violations should be rigidly investigated and a counter-revolution launched against the spread of the evil. If in a spirit of prevention it is made a prominent issue of our propaganda and enactments we can hope to accomplish much in a short time, and eventually eradicate the practice among us.

The division of fees is unjust in the extreme to all concerned. When a patient is

transferred to a specialist the original physician may in justice charge for services rendered only, because there his responsibility ceases. The specialist assumes responsibility for the case and deserves a commensurate compensation. In offering a premium upon patients he places himself in the ranks of the quacks and "advertises" his wares. The physician who accepts a fee for referring a case is no better because he is but a medium for the advertiser. Thus may birds of a feather flock together and barter in human lives, than which there is nothing more culpable or despicable. And so it should be regarded by all right-thinking men; by those in whom repose the destinies of a confiding public, and they who profess a religion or bear allegiance to the best tenets of medicine.

MEDICAL DEFENSE.

The medical defense amendment written into the by-laws of the Association at the Columbus Convention is an innovation which should not be underestimated by the profession. It is another step in the direction of co-operation which will do more to eliminate malpractice suits than perhaps any measure ever conceived to that end. It means that a solid phalanx of medical men will stand between the individual physician and all maligners who strive for the advantage against him, to the end that he will receive a fair and impartial hearing before the law.

The amendment proposes to employ counsel, always with the approval of the defendant physician, supply expert testimony, and, if advisable, to carry the case to the highest courts of the nation until a just and satisfactory issue has obtained. In order that the Association may not be imposed upon, intentionally or otherwise, the Committee on Medical Defense will investigate all instances thoroughly and ascertain whether they are proper cases for defense.

It must be understood that the act is not construed to apply in suits brought as offsets for bills for services rendered, or where the plaintiff will not sue for alleged civil malpractice if suit is not brought for collection of the services rendered at the time the cause for action arose. Nor does the Association propose, for reasons commensurate with the impracticability of such, to pay any judgment levied against a member.

Its responsibility is of necessity limited only to assistance in the manner of legal defense.

The beauty of the feature lies in the fact that it comes entirely free to the members of the Association. Such protection is usually to be had only through the medical defense policies of insurance companies, at a premium which amounts to considerable within a short time, and insurance defense is for manifest reasons of less potency than that which can be afforded by the Association.

The amendment specifically states that the assistance for defense is available only to members of the Association in good standing. Any member in arrears after February 1st is not to be entitled to the defense for any claim, the cause of which has occurred during the period of his delinquency. Therefore, to assure himself of this exceptional benefit, if occasion demands, by precluding the possibility of heavy expenditures in the event of prosecution, every member of the Association should do himself the favor of remitting his dues promptly.

While this state has been remarkably free from malpractice suits, as compared with other states, there is a fastly growing tendency in this direction at the present time, and the percentage of cases has multiplied in our courts within recent years. It is assuming the nature of a popular sport, if it may be so characterized, and no physician may regard himself as immune. The adoption of medical defense is a ten-strike for the Medical Association of Georgia, and indicates the trend of progress among us, and exemplifies the axiom that in union there is strength.

PERSONAL AND PERTINENT.

The Swainsboro Sanitarium, built and equipped at a cost of \$10,000, and having a capacity of eighteen beds, has been opened at Swainsboro, by Dr. R. C. Franklin. Dr. Franklin will devote himself to general surgery, with special attention to gynecology.

News has been received of the commission of Dr. R. L. Hammoak, a graduate of the University of Georgia Medical Department, class of '98, as captain in command of the medical corps, and Dr. W. E. Wood, class of '02, as lieutenant-surgeon of the Sixty-ninth Canadian Overseas Regiment.

Dr. J. W. Pahner, of Ailey, a member of the State Board of Medical Examiners, was one of the delegates elected from the Twelfth District to attend the National Democratic Convention, held in St. Louis.

Dr. Wm. A. Norton, who has been practicing in Savannah since his graduation in 1903, has removed to El Paso, Texas, where he will do general surgery.

Dr. J. R. Lewis, formerly practicing at Rockledge, has received appointment as house physician at Williams Private Sanitarium, Macon, entering upon his duties there April 1st.

It is the purpose of The Journal to serve as many members of the Association as possible. For that reason we would thank the secretaries of the county and district societies, as well as any member, to forward us news of all kinds that would be interesting to our readers. Personal items concerning physicians and society activities are particularly desired.

The appointment of internes to the University Hospital, Augusta, for the session of 1916-17, has been officially announced, as follows: K. A. Carroll, J. F. Cremons, J. A. McGarity, W. R. Schnauss and R. B. Woodward, from the University of Georgia; F. J. Bussey, Jr., Ernest Corn, T. R. Gaines and J. L. King, Jr., from Emory University; R. A. Hale and R. F. Zeiss, University of Texas, and W. M. Tappan, University of Michigan.

The graduating exercises of the Medical Department of the University of Georgia were held at the Grand Opera House, Augusta, on the evening of May 31st. Chancellor D. C. Barrow, of the University, delivered the diplomas and made an address to the class. Dr. H. C. White, professor of chemistry, was the orator of the occasion, and spoke upon the history and inspiration of medicine.

Preceding the exercises an official session of the board of trustees was held and the plans for the coming year worked out. No changes were made in the faculty. Following this the trustees and graduating class were entertained with a barbecue at Lake View Park, given by the faculty.

IT PAYS THE MANUFACTURER TO MAINTAIN ETHICAL STANDARDS.

The notice of the removal of the Dextrin-Maltose manufacturing plant from Jersey City to Evansville, Ind., published in one of our advertising pages, deserves more than passing attention. It furnishes evidence of the natural growth of a manufacturing enterprise which is now vacating its old factory with 18,000 square feet of floor space for a new location in the Central West and in a new plant with 300,000 square feet of floor space—sixteen times larger than the old one.

This removal from a comparatively small to a very large housing also affords striking proof that success awaits the manufacturer who produces something the physician really wants, and markets his products in accordance with the standards set up by doctors for the sale of products they use. The first commandment for the direction of the manufacturer under these standards is: "Thou shalt not offer to both physician and public, by advertising or otherwise, anything which requires medical skill to properly use."

This commandment has been ignored by some manufacturers of infant foods, who have persistently educated the public with pseudopediatrics, thereby tending to increase infant mortality and hampering the physician in the practice of scientific, or even rational infant feeding.

The firm, which announces herewith its removal from the East to larger opportunities in the West, early recognized the requirement by the medical profession for a product used in infant feeding, made and sold exclusively for physicians, with no appeal, nor information to the public.

This firm deserves no special commendation for the course it has pursued, it being its duty to follow it. Reference to the sales of Dextrin-Maltose is made simply to show that it is remunerative for manufacturers to treat the medical profession fairly.

The more money The Journal of the Medical Association of Georgia makes out of its advertisements the less it costs the State Association to run the paper. This means that every member of the State Association has an interest in the advertising columns. If one business firm advertises and another does not, patronize the one that does. It is money in your pocket.

Hay Fever Vaccine Mulford

For the Prevention and Treatment of
"Rose Colds," "Spring" or "Fall" Hay Fever

Hay Fever Vaccine "Spring" Mulford consists of the protein extract obtained from the pollens of timothy, rye, red-top and several other grasses—the cause of so-called "rose colds," or "Spring" or "Summer" hay fever—dissolved in physiological saline solution and accurately standardized.

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Both varieties, the "Spring" or "Fall" Hay Fever Vaccines may be used without preliminary diagnostic tests. If treatment does not give entire relief, skin tests may then be made to discover possible hypersusceptibility to pollen not contained in the Vaccine.

Noon, working in Sir Almroth Wright's laboratory, was the first to report successful results in the treatment or prevention of hay fever with subcutaneous injections of pollen extracts. Clowes, Lovell, Lowdermilk, Ulrich, Hitchens and Brown, Koessler, Manning, Cooke, Wood, Goodale, and many other scientists have amply confirmed Noon's work.

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" C	"	0.01	"	"	"	"	"	"
" D	"	0.02	"	"	"	"	"	"

In ordering specify "Spring" or "Fall" as may be desired.

For Immunization against Hay Fever, first dose (Syringe A) should be given at least 30 days before expected attack, followed by B, C and D at five-day intervals. Syringe D strength Vaccine should be used at weekly intervals during the entire period of accustomed attack or until immunity is established.

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There are no contraindications to the therapeutic or prophylactic use of Hay Fever Vaccine Mulford so far as known. A small percentage of patients may be hypersensitive to the protein extracts, in which case the doses may be accordingly reduced.

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The greater this financial success, the greater the practical value can be made to the individual member, and hence the greater the value as an advertising medium.

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The advertisers cannot continue in business without the patronage of the medical profession.

The medical man cannot continue in business without the supplies for sale by the advertisers.

The interests of all are identical—the profession must depend upon the manufacturers, etc. The manufacturers, drug houses, etc., must depend upon the more progressive and more successful physicians. The interests of both are best served through the official Medical Journal—the Journal published by the profession in its own best interests, scientifically and ethically.

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OF THE

Medical Association of Georgia



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VOL. VI.

AUGUSTA, GA., JULY, 1916.

No. 3

Deaderick & Thompson's JUST ISSUED Endemic Diseases of the South

Here is a book every doctor in the South should own. It is the only book dealing solely with the endemic diseases of the Southern States. Those diseases of special importance are given unusual consideration. *Pellagra*, for instance, is given eight chapters for its full consideration, while *hookworm disease* covers nine chapters and *malaria* eight. You get the etiology, pathology, clinical history, diagnosis, prognosis, prophylaxis, and treatment of each disease, presented from every angle, always bearing in mind the practical aim of the work—the *application* of the knowledge in daily practice. Diagnosis and treatment are gone into in detail, giving you every aid to the correct interpretation of the symptoms presented, and every modern means of value in the prevention and treatment of the diseases discussed. The illustrations, most of which are original, were included because they really help.

CONTENTS: Malaria, Blackwater Fever, Pellagra, Amebic Dysentery, Hookworm Disease, Other Intestinal Parasites: *Taenia Saginata*, *Taenia Solium*, *Hymenolepis Nana*, *Hymenolepis Diminuta*, *Strongyloides Intestinalis*, *Ascaris Lumbricoides*, *Oxyuris Vermicularis*, *Trichuris*, *Balantidium Coli*, *Myiasis Intestinalis*.

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In view of the increasing repute and use of the

Fairchild Culture and Tablet of the *Bacillus Bulgaricus*

and the approach of the hot season, we would request that physicians caution patients to be careful to obtain products of date within the guarantee and that have been properly cared for—kept in ice box or refrigerator; also to keep the Culture or Tablets at a low temperature until used. This particularly in view of the special serviceability of these culture products at this season in the intestinal infections of infants.

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SOME REMARKS ON HYDROTHERAPY.*

W. W. Blackman, M.D., Atlanta.

The therapeutic use of water is reaching a higher and higher plane, for the principles of hydrotherapy are better understood and more widely appreciated. The narrow empiricism which dominated the early one-method water cures has given way to versatile and more specific methods; moreover, its practitioners have found that discrimination, accuracy and conservatism have their rich rewards in this as in other fields of medicine. In institutions where it is practiced, hydrotherapy is now being co-ordinated with the other departments of medicine, and it assumes a leading, a secondary or a silent role, as may be deemed judicious in the individual case.

Of the four stimuli to protoplasm, taught in physiology, hydrotherapy utilizes the thermal chiefly and to a less extent the mechan-

ical, the latter by means of manipulations and of streams of water applied under pressure. Water at various temperatures in its liquid state or in the form of steam or ice is a convenient vehicle for these stimuli. While many hydiatic applications to the mucous membranes are made, man's 19 square feet of skin with its sympathetic nervous connections with all deep organs, with its capacity for containing great quantities of blood and with its vital functions of heat radiation, perspiration and respiration, is our great field. In general, the skin overlying an internal part is reflexly associated with that part, a convenient circumstance which simplifies hydrotherapy.

It is interesting to note that a healthy skin is a sign of a healthy mucous membrane. In hydiatic practice one sees many instances wherein rehabilitation of the skin may be relied upon to markedly influence for good the respiratory and alimentary mucous membranes. Many skins have largely renounced their functions other than protection and sensation. Some skins are parchment-like, some are clammy and some are tight and hide-bound, as in the case of a mule that will not

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thrive. In these cases, with their associated low metabolism and faulty mucous membranes, mild sweating baths, followed by cold rubbing and massage leave little to be desired.

All the authorities on hydrotherapy, from Winternitz to Baruch and Kellog, deny the existence of any virtue in the minerals found in solution in the many celebrated mineral baths. Dr. Simon Baruch says: "Fortunately, we have sufficiently positive experiments to decide this question and to remove any doubt that may exist. Among these observations are those of Stas who subjected himself on three successive days to prolonged baths in arsenate of sodium and not the slightest absorption was noted. The same result was obtained from baths of potassium iodide and other salts which could be readily recognized in the urine if they had been absorbed."

The heat or cold conveyed by the peripheral cutaneous nerves to the central nervous system, and thence reflected through the motor tracts, is the really effective element in the mineral baths, and all other therapeutic baths. The stimuli thus generated are aided by only such ingredients as stimulate the cutaneous nerves, to wit: strong saline or CO₂ constituents.

One could not cover, in a readable way, the many applications of the principles of hydrotherapy in a 15-minute paper, no matter how condensed, likewise, it would be of little value to discuss the use of the hydriatic devices provided in a sanitarium equipment: therefore, I shall only attempt to recall and emphasize a few practical hydriatic expedients for general use.

The general practitioner can facilitate his work in numerous and various cases by directing for his patients the use of Sitz baths. Two child's bathtubs or two small galvanized tubs, a thermometer and a foot tub are the only paraphernalia necessary to the successful use of the hip bath. For the swollen prostate, for cystitis, for hemorrhoids, for leucorrhoea, metritis, and ovaritis, the alternating hot and cold Sitz bath is very effective. The alternating temperatures flush the parts with new blood and squeeze out the old and exert a fine vascular tonic effect.

Two Sitz tubs should be used side by side and the changes, from the hot tub to the cold and back, should be made quickly. The following temperatures and durations will il-

lustrate: 108 degrees, 4 min., 75 degrees—2 min., 110 degrees—4 min., 75 degrees—5 min. The last prolonged cold tub drives out the movable blood and fastens it out by sustained vasoconstriction, which is a thing highly desirable in old congestions. A hot Sitz bath of 110 to 114 degrees for 8 minutes, followed by a single dash or dip of cold water to the thighs, is one of the best emmenagogues, especially if preceded by a hot vaginal douche and followed by rest in bed. Douches, when used at all, should usually be large. We use a three-gallon container with a rapid flow tube and nozzle and give the hot douche at 110 to 115 degrees with the patient lying over a suitable basin and drain. It could be well given in an empty bathtub. Nearly ten minutes is consumed. The patient should frequently perform momentary closure of the vulva around the douche nozzle to gently balloon the vagina.

Every practitioner meets with cases of prolonged and debilitating menstruation wherein the uterine arterioles lack tone and the capillary seepage continues for days after the useful functions of menstruation have been completed. After two days of ample menstruation, no conceivable ill-effect can come from terminating the flow by the gentle agency of the Sitz bath about to be described:

102 degrees—4 min., 96 degrees—4 min., 92 degrees 10 min. With this bath, a hot foot tub at 112 degrees is used which dilates the vessels of the feet and legs and produces a collateral anemia of the pelvic viscera. This procedure is followed by cool sponging or the alcohol rub, and after one or two applications is attended by apparently normal cessation of the menstrual flow. On the next day, the alternating hot and cold Sitz baths may be begun for the more permanent tonic effects upon the pelvic vessels.

Gonococci are very susceptible to heat—being killed at about 110 degrees. After a Sitz bath of about 114 degrees for five minutes, the temperature in the urethra will be from 104 to 105 degrees, while that in the rectum 103 to 104 degrees. By a prolonged bath these temperatures may be raised still higher. A hot Sitz bath dilates the vessels of the pelvis, thus bringing to the pelvic viscera a greater supply of fresh blood with an increase of leucocytes. So we have the double effect of lowered resistance of the gonococci, with the increased offensive powers of the blood. This procedure is of espe-

cial value in dealing with orchitis due to gonorrhea and with infection of the deep glands and other structures not reached by germicidal applications.

The wet fomentation is always available and nicety in its use renders this humble agency a very potent one. When the blood vessels of the skin over a deeply seated part are widely dilated and filled with blood as a result of a hot application, a collateral anemia is produced in the vascularly associated areas, i. e., in deep parts supplied by the same trunks. It is in this way that the portal circulation is relieved, by large abdominal fomentations or a hot trunk pack. The decongestive or derivative effects of the fomentation continue for some considerable time after the termination of the single application, permitting of increasing degrees of vascular tone in the affected organ. Analgesic and excitant effects also follow the use of the fomentation. It is indicated to reduce swelling, stimulate absorption of an effusion or exudate, increase local blood supply, and awaken functional activity. These hot, wet applications must be wrung very dry and used at a temperature sufficiently high to produce slight pain when brought into contact with the skin. Fomentations afford great relief in the pains of inflamed joints, neuralgia, gall stones, renal calculi and other such conditions. In the pain of hyper acid gastritis, heat should be applied to the epigastrium for half an hour after meals. In toothache, earache, and migraine hot applications must not cover the neck, for the congestion will be increased by dilating the common carotid. An ice bag may be simultaneously applied over the carotid. In applying heat to an inflamed eyeball, the fomentation should cover the lids and brow; if the inflammation is of the eyelid, it should cover the lids and cheek.

The use of the cooling compress and of the heating compress locally is of such value that every one should add them to his armamentarium. The cooling compress is made by cutting four folds of old linen or six of cheese cloth to fit the part, wetting the same, and covering it lightly to allow slow evaporation and cooling. The cloth is lightly wrung out in water at 60 to 70 degrees, applied snugly, and secured by a one-layer flannel bandage wider than the cloth. Its use is to maintain active fluxion of the deep, related parts. For tonsillitis it is very useful

if applied, not around the neck, but from ear to ear and secured by a flannel bandage, pinned on top of the head. In subacute articular rheumatism, the compress hastens recovery. In pneumonia a vest is thus made and pinned over the shoulder and around the chest. The large abdominal cooling compress is antipyretic and quieting and in acute conditions is usually renewed every hour. It is indicated in typhoid fever for its effects upon leucocytosis and vital resistance.

The heating compress acts as a poultice. It is a wet compress, covered with impervious material to prevent evaporation and to retain the heat and moisture. I will describe briefly the heating compress, as applied to an inflamed, swollen and feverish wrist or other joint. Six layers of cheese cloth, wrung out of cold water, is wrapped around the joint. This is covered snugly with a rubber roller bandage and the whole enveloped in a flannel roller bandage. The compress is removed after eight or ten hours, the part is bathed in cold water and given light friction, and, after one or two hours' rest, the compress is renewed. In acute rheumatism it is often unnecessary to renew this compress to the joint after it has been on overnight for the articulation will be found to be free of swelling and practically free of soreness. The inflammatory symptoms will probably have taken refuge in articulation, and can then be pursued thither. It is better to keep them on the move while the causes are being dealt with constitutionally or otherwise.

When prolonged cold compresses are employed, the blood vessels of the reflexly associated viscera are maintained in a state of contraction. If an ice bag is used, it should be large, but not heavy, and a woolen cloth should lie between it and the skin. At half-hour intervals it should be removed and the skin well warmed up, otherwise the surface will become benumbed and the object defeated. Prolonged cold is contraindicated in painful inflammations. For cerebral congestion or threatened hemorrhage, use cold compresses to the scalp and face and over the carotid, with a hot leg pack to divert the blood. Over the precordium, the sedative and energizing effect upon the heart is excellent. Nose bleed and uterine hemorrhage are well controlled by the application of the cold compress to the nape of the neck and to the inner surface of the thighs, respec-

tively. An ice bag over the epigastrium is effective in nausea and in anorexia. Applied to the head, it lowers temperature.

The hot full bath at 106 degrees for three minutes, raised to 108 degrees for three minutes and followed by quickly enveloping the patient in a blanket pack with hot bottles to his feet and legs and a cold compress to his head, is the most satisfactory sweating bath for general use.

The graduated full bath is one of the very best methods for reducing fever. The initial temperature is three or four degrees below the temperature of the patient. The water is cooled two or three degrees every five minutes until 86 degrees is reached, by Buchard's plan. The patient should be continuously rubbed whenever chilly sensations develop. When the temperature is above 102 the bath is used every three hours. It is less shocking and more comfortable than the Brand bath in typhoid and equally efficacious in controlling the fever.

The hot full bath is the quickest expedient for relief of chill. John Wesley knew that in periodical chills, a short, cold full bath, given before the time of the expected paroxysm, would avert it.

The drinking of a glass of very cold water before eating stimulates the flow of hydrochloric acid in cases of hypopepsia. Hot water drinking decreases the acid secretions of hyperpepsia. In dropsy from any cause, it is found to be of service to stimulate the kidneys by copious water drinking morning and evening and to restrict water at other times of the day.

Elaborate paraphernalia is not absolutely essential to hydrotherapeutic results. Several old water doctors in Georgia, who died twenty years ago and who are still remembered for their success, used half barrels for tubs and heated water in kettles on the ground. Though they have been gathered to their fathers "their good works do follow them."

DISCUSSION ON PAPER OF DR BLACKMAN.

Dr. George M. Niles, Atlanta: I feel that a practical paper of this importance is worthy of a certain amount of discussion, and I think it should not be allowed to go without it. I know Dr. Blackman's methods well. I see him very often in the city where

we both reside, and I know he speaks from experience.

The use of water as a therapeutic agent dates back to the remotest antiquity. Many of you, probably all of you, will remember the first instance of successful hydrotherapy was where Naaman, the leper, captain of Syria, was troubled with leprosy and his efficiency as a public man was about to be ruined on that account, and there was a peculiar Israelite captive who said there was a great man who could cure him of his leprosy. He got his retinue of servants and camels and went to see Elisha, and Elisha told him to bathe seven times in the River Jordan and his leprosy would be healed. Naaman was very indignant about it. He said, "The idea of telling me to do anything like that for leprosy when there is the River Damascus and other high-class rivers. Why should I want to bathe in a dinky little river like Jordan. I won't do any such thing." However, he bathed in the River Jordan seven times, as Elisha told him, and came out healed, and right then hydrotherapy made a start, and while it has its ups and downs, it has also a certain amount of prestige. The trouble is that it has not been practiced enough, and there are a lot of physicians who look upon it as Naaman looked on it; they use it, but they do not use it to the extent that they should, because it is so simple and so easy. They want something that is mysterious and something that is occult. If Elisha had told Naaman to do something that required a lot of trouble and pains, he would have gone at it at once.

Here we have an agency we can control. We can control the temperature to a great extent. We can stimulate. We can depress, and I know of no better aid in these old cardiorenal cases or those old cases of insufficient elimination where, if I may use the expression, that have accumulated a lot of clinkers, and nothing gets rid of them like water. Water is the great solvent. It is the glass that cheers and does not inebriate like three ounces of tanlac. There is no trouble about becoming inebriated by the use of water, and the main thing is to use plenty of it. All the patients that come to me, especially women, are suffering from a lack of water. I give them this illustration: Suppose you are required to clean house and in so doing only use a pint of water, you would not think you could do it efficiently, and yet

you want your body to do its sanitary work on a lack of water. Many of the older members of the profession were taught that fallacious doctrine that we must not drink water with meals. This old idea of drinks between meals and with meals, with the occasional exception of a bad dilated or uncompensated heart, has been carried out by a great many people.

I can not discuss Dr. Blackman's paper seriatim. I feel he has given us a good, practical, worthy paper, and I do commend to the profession this simple and efficient agent. It does not receive as much attention as it deserves. We need to study and consider more the efficiency and the help that we can get from hydrotherapy.

Dr. Blackman (closing): I have often had occasion to be glad of Dr. Niles' philosophy and knowledge of hydrotherapy.

I have been very much pleased to notice that in the standard works on pathology the authors give credit to hydrotherapy. Hydrotherapists are trying to be as accurate in their work as if they were prescribing potent drugs, and they look forward to the time when people will not think of hydropathic treatment as a boiling-out process.

THE DANGERS OF THE PAINLESS BLIND ABSCESS; (B) THE EMETINE FLASH.*

Robin Adair, M.D., D.D.S.

A great battleship does not always inflict the greatest damage upon the enemy. Often it furnishes the target for the small torpedo craft. The torpedo is small in comparison to the tons of metal which a man-of-war could deliver, yet it is more to be feared.

Physicians used to look for the great diseases, the battleship malady. Experience and late investigation have shown that small foci of infection in any part of the body are often more dangerous to the welfare of the body than the great disease. These may be termed the torpedoboat location of the enemy in the body. When such an invasion takes place and a submarine or sub-blood stream torpedo

charged with streptococic germs explodes it will tax all the defensive measures of the physician and the patient to withstand the attack.

One of the most frequent of the systemic enemies is present in nearly all our sick, one which is most easily overlooked because it is hidden, and not mentioned by the patient because he does not know that he has been invaded by the enemy, infection. It is most dangerous because, enclosed in bone, no outward discharge is general, and the full force of the explosion is felt by the general system. Such an enemy is silently causing more suffering among the American people than the awful carnage reported by the European war. Such an indictment we bring against the small painless blind abscess, situated at the apices of dead teeth.

The usual custom of giving case records at the end of the paper will be reversed. The first two records are furnished me by Dr. J. E. Paullin.

Read Records.

The essayist could supplement these by a large number of just such cases from his personal work, but thought best to give you the straight medical side of the subject. Surely such results in these cases will insure your interest in the remaining portion of this paper.

We will assume that all up-to-date physicians make a more or less thorough examination of the patients' mouths. Many now X-ray all of the teeth before making a diagnosis of certain conditions. The X-ray is the best guide in these cases. On the other hand, the patient remembers dead teeth, for the work of the dentist in removing the pulp generally leaves the indelible impression on the mind of the patient, although the work may have been done many years previous. If the patient has dead teeth which on being gently tapped with an instrument are tender or periodically become sore, they give a diagnosis almost as certain as the X-ray. The danger increases as we go to the distal part of the mouth. The wisdom tooth, being a rudimentary structure, will generally give trouble if the pulp has been treated.

One investigator has tabulated the results from the examination of one thousand teeth, finding 71 per cent with well defined abscesses. It is of interest to note that the same author does not believe the dental profession is responsible for this condition fur-

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ther than to create an area of lowered resistance which encourages colonization of bacteria already afloat in the blood, and that these abscesses are not of dental, but of hem-alogenous, origin and a secondary lesion. Whether these abscesses are associated with or cause a disease, we do know that grave dangers are lying dormant in such cases.

Your essayist would not have you believe that all maladies which you treat can be traced to mouth infections; however, the tendency of investigation seems to be pointing that way. Many of the advanced medical clinics are doing a systematic work in this field. It is also all-important that the private patient receive a preliminary mouth examination to determine dental infection. It could be looked for by the physician with just as much interest as a focal infection in any other part of the body, such as the nasal cavity, ear, genito-urinary tract or gastro-intestinal tract.

The Cause of Blind Abscesses.

Blind abscesses only occur on the so-called dead teeth, those in which the pulp (nerve) has either died or has been removed. This death may have been from disease, accident or design by the dentist. When infection takes place at the end of the tooth, it first forms a blind abscess. Failure of the dentist to completely remove all the dead pulp or to properly fill the tooth to its apex, thus leaving an infected space where the phagocytes cannot act. Such abscesses are generally producing a foci for virulent bacteria. These bacteria get into the circulation, and as the same class of bacteria cause arthritis, we are led to believe that many such cases are caused by these abscesses. This, we do know, that the proper removal of such foci often cures these cases. It is just the same process as we get from a carbuncle with a subsequent septicemia or gonorrheal arthritis from a

A blind abscess has a pyogenic membrane over the apex of the infected tooth. Into this sac projects the necrotic end of the tooth. Surrounding the area is the alveolar process which, from contact with the infection, has also become necrotic. This condition furnishes the ideal munition plant for the torpedoes of bacteria. The blood stream is where the explosion takes place. These torpedoes may float until halted at some joint or place of lowered resistance,

where they explode, and the patient either becomes a derelict wreck or sinks.

Many oral surgeons, like myself, working on the border line between dentistry and medicine, observe daily so many cases of this class of septic absorption that I feel it my duty to urge upon you gentlemen to give this matter your most serious consideration in your work. Probably you are thinking this is the dentist's work alone. It is, but it is yours first to see that the dentist gets the case, and that he performs the proper operation. A patient generally goes to the dentist when a tooth aches, but seldom of his own accord to be treated for a mouth infection, although the fact may be known to him. Because it causes him no pain he thinks it does him no harm. Remember, also, that, though he has just been to the dentist and you see many golden crowns and much bridgework, that this very work may shelter your source of infection. In grave cases, you must urge the dentist for radical work. It is the training of the dentist to conserve teeth; this desire also pleases the patient. In this connection Shamberg says:

"In my opinion the most dangerous tooth is the one that gives no evidence of the infection that lurks beneath it. It lies like a snake in the grass ready to strike at the most opportune time. I could go on indefinitely citing grave cases of systemic disease that owe their origin or their seriousness to infections about the teeth and jaws. The opinions of such men as Ranter, Billings, the Mayos, Rosenow, Hartzell, Camae and others, whose views have been published in the medical and dental journals during recent years, should by this time have aroused the dental profession from its therapeutic lethargy to the extent that radical changes in practice should have been advocated and instituted."

Many of your cases not only need food, air and medicine, but also the removal of mouth infection. Absolute proof is now on record that the proper treatment of blind abscesses has greatly improved those patients having rheumatic or neurotic pains, grave anemias, lesions, severe headaches, and neurasthenia. In diabetes where we have a high blood temperature of unknown origin associated with several blind abscesses, the glycosuria by proper attention to these abscesses may be reduced.

It is a lamentable fact that many dentists and physicians are skeptical in regard to

these reports, as they will not accept the relation between general systemic disorders and mouth infection. Even if you have any doubt as to the causative factors as suggested, all must admit that they must be a complicating factor which may be the fatal submarine torpedo of destruction.

Many of you are ready to answer me with the statement that you have gumboils in your mouth, and have never experienced any trouble. I can congratulate you upon your present immunity, but also warn you that once your resistance is lowered, you may have some serious trouble from this now dormant foci of infection.

Treatment.

Dentists used to endeavor to cure these abscesses by therapeutic treatment. The X-ray has shown that, although seemingly a cure was effected, the germ-laden area remained. We now know that this condition must be treated surgically, either by extraction and curettment or by root resection.

Simple extraction of these teeth will not always eradicate the foci. The necrotic area above the abscess must receive a curettment. If several affected teeth are to be treated, be sure that only one at a sitting be operated upon, as a reaction similar to the administration of vaccine will occur.

In conclusion, you may be assured that blind abscesses, such as I have illustrated, should be treated at once, in an aggressive manner. In this condition it is no time for watchful waiting. Insist on the removal of these streptococcic torpedoes, for it will be too late after they have exploded in the brain or the heart.

General Mouth Infection.

Almost as important as the closed-in abscess is the general infected mouth. This condition may come from chronic abscess with fistula, germ-laden mouth or teeth, or infection from pyorrhea. The resultant infection from this source is sometimes greater than from blind abscesses, but, on account of the free access into the mouth, being swallowed with antiseptics, gastric juice and secretions, the patient can live out a lifetime with a badly infected mouth, and still receive no systemic shock.

The essayist, because he somewhat specializes along the lines of pyorrhea, has received numerous letters requesting the latest findings regarding the results of the emetin treatment in mouth conditions. In concluding this paper, I wish to digress from the original subject and answer these questions in a brief manner.

Like a flash of lightning from a clear sky, it seems that every dentist and physician in the United States began pumping emetin into all their patients. It seems now that this has died out about as quickly as it began.

The dental profession immediately set its research workers to find out the truth, and they found that the findings of Bass and Johns could not be substantiated, and that their reports were based upon a wrong impression of the pathology of pyorrhea. The amoeba was always found in diseased mouths, but not always in deep pockets, as claimed by Bass and Johns. Just as many were found in the soft deposits at the gingival margin as in the bottom of the pocket. In no instance was the amoeba found in the cut sections of the gums, but only in the superficial pus, showing that there was no invasion of the tissues around the teeth. It was further found that the food of the amoeba is ingested cocci and dead leucocytes. No preserved pus cell was found in the amoeba. The amoeba went down into the pus pocket because it found the food there.

In regard to treatment of pyorrhea, all well informed dentists now agree that emetin has no place in the treatment of pyorrhea. The hemostatic action in the use of this drug only covers up and lowers the resistance of the patient to the streptococcic invasion underneath.

The United States government sent out a report of this investigation showing that amoeba could be destroyed by local and hypodermic injections, but that the disease is not eradicated, but only covered up, and that no permanent, beneficial result can be expected by its use in pyorrhea.

The essayist, like all of you, is most disappointed in the failure of this drug to lead us into the promised land of easy cure for pyorrhea which we hoped to find.

DISCUSSION ON THE PAPER OF DR. ADAIR.

Dr. E. C. Thrash, Atlanta: I am sorry that I did not get here in time to hear all of Dr. Adair's paper. My work in pathology at the dental college has necessitated doing a considerable amount of investigation and work in this line. Dr. Adair puts the statement too strongly. Of course, he is conversant with the practical nature of curing Riggs' disease, and he is right in the statement that emetin will not cure it. It is absurd to say that the invasion of bacteria and animal parasites into pockets is harmless regardless of whether the parasite is animal or vegetable. Every organism that is pathogenic and invades the mouth helps to keep up the irritation which produces Riggs' disease. It is primarily caused by separation of the peridental membrane, or the pericementum, and periosteum. When these become separated there is never healing until they unite, and they are separated by erosion, a deposit of tartar, calcific material, and when this condition arises bacteria invade the bony structures and the soft parts, erosion continues until the gum and the bony structures, the periosteum and pericementum are all destroyed. It is just as absurd to talk about curing that with any kind of local application as it would be preposterous to talk about curing appendicitis by applying iodine to it.

The treatment of this disease is not the work of a practitioner of medicine. A surgeon can do it if he wants to do it, but it is a surgical procedure, and it is just as important to prepare the ground for this surgery in diseases of the gums as it would be in appendicitis or abdominal section of any kind.

Now, medical students have asked me what part the amebae play in these pockets. Some say they do no harm and others say they do. Most of you who have come from the farm have seen operations on animals, and you have seen flies collect about the wound. You have seen the farmers pour molasses on to run the maggots out. The amebae play the same part in this infection that the maggots do in connection with wounds in animals. These maggots do not invade sound tissue, but they irritate and prevent healing. If you can keep the maggots out the healing process will go on. These amebae do not in-

vade the tissues, but they keep up a continuous disturbance which interferes with healing. You get rid of the flies that are present, but they are very likely to come back. Emetin will kill every amebae in these pockets, but you have just started with the process of treatment. It is very essential for you to get rid of the dead or necrosed bone, and put the periosteum and pericementum in a condition where they will unite. Where the periosteum has been destroyed and can not be replaced, it is very essential to do something to try and restore the conditions at that point. But emetin will not stop the pathological process; bactericides will not stop it, and nothing will stop it except operative procedures. But if you leave amebae also in the field to continue their disturbance you have been derelict in your duty and in cleansing the field of operation.

I do not know whether iodine would be worth as much or more than emetin if you could get iodine into every pocket and throughout all the different broken down areas where amebae have entered. Emetin should be given systematically, and it is just as important to do that as it is to prepare for a surgical operation in any other line. But Dr. Adair makes a mistake if he passes this up as being of no importance, because it is important the same as maggots are important in infected wounds with all other types of bacteria.

Dr. Alpha A. Williams, Columbus (by invitation): I thank you very much for this honor and opportunity to address you, and especially to speak at a meeting where the dental profession and the medical profession are getting so close together. I am delighted to have the opportunity to say a few words with regard to the subject my brother practitioner has presented, and in the few remarks I shall make I shall address myself to that phase of the subject which concerns the streptococcus veridans.

The Research Commission of the National Dental Association, in charge of Dr. Hartzell, of Minneapolis, has done some splendid work along the line of investigating mouth infections and in transplanting infections to other parts of the body. Their experiments have been along the line largely of transplanting these mouth infections by inoculations into animals. They have found that most of the lesions produced in these animals by inoculation with various streptococci found in

apical abscesses and pyorrheal pockets are similar to those lesions that we find in human beings. And they naturally consider that these lesions are produced by these same streptococci. The streptococcus veridans, as Dr. Adair has pointed out, infects the apical space and produces what is known as a blind abscess, although there may not be any indication that there is an abscess or focus of infection within the mouth. These investigations prove that the streptococcus veridans taken from pus pockets in the mouth and inoculated into rabbits will produce inflammation, vegetation and growth on the valves of the heart. It will produce inflammation of the arterial wall, and also symptoms of kidney infection. These investigators believe that by experimenting just a little longer they will be able to verify what we have already done, and proved that these foci of infection in the mouth are often the cause of some of the mysterious illnesses of the human family that have been very difficult for the medical practitioner to locate. It has been exceedingly hard for them to find the etiological factor in some cases they come in contact with. If this Research Commission is able to point out the way by which medical men may find the sources of some trouble that is obscure, and in which it is hard to make a diagnosis, great good will have been accomplished.

Dr. Adair has not touched on the results of the research work of this commission of the National Dental Association, and yet it is one of the most authentic commissions for research work in this country, and it is doing splendid work in not only assisting the dentist, but in helping the medical profession.

Dr. George M. Niles, Atlanta: There are two or three points of Dr. Adair's study which I wish to discuss.

In regard to the presence of ameba and the possibility of non-pathogenic ameba, while he did not mention that phrase of the subject, it is a point that is made quite often that there are certain amebae that are present and not doing any damage nor causing any harm whatever.

Musgrave, in the Philippine Islands, and Allen, of Charlotte, N. C., have both studied the history of non-pathogenic amebae. Musgrave took some hundred patients in the Philippine General Hospital and had their stools examined. These one hundred patients

did not come in particularly for dysentery or any bowel trouble. In seventy-one of this number he found non-pathogenic amebae, and out of that seventy-one in less than six months fifty developed amebic dysentery, showing that under favorable conditions later on non-pathogenic ameba can become harmful and pathogenic.

One Hal Jones, a number of years ago, said the only kind of Indian that was a good Indian was a dead Indian. I might say, the only kind of non-pathogenic ameba that is a good ameba is the non-existent ameba. That is one point.

Another point: Some people ask why it is they can have bad teeth and go on in perfect health apparently and not seem to be affected by the constant stream of bacteria which is flowing down their throats like coal down a chute? Why does it not hurt them? The reason is that where there is a sufficiency of free hydrochloric acid in the stomach those germs are destroyed. They are harmless, and as long as there is a sufficiency of free hydrochloric acid in the stomach, the individual is immune from any harmful results because these germs are destroyed. But let it go below par, or let the stomach fail to do its work, let there be a lack or insufficiency of free hydrochloric acid in the stomach, then trouble begins. I have seen a number of such instances in my own work.

Another point I want to make is that the profession as a whole are waking up to the various indirect and apparently remote infections that can be traced back to these blind abscesses that Dr. Adair mentioned.

In closing, I wish to express my personal obligations to him and to mention a case which possibly can be duplicated in the families of my hearers.

Several years ago I had a son a little over 3 years of age who occasionally would have violent attacks of fever. The temperature would run up to 106 and 107 degrees, and for three or four days the little one would be quite sick. He had some bad infant teeth, but I did not think much of them. I had some of my studious confreres in Atlanta help me, but we did not seem to make much headway, and finally, as a last resort, I decided to go to Dr. Adair with the boy and have the teeth looked after. I did not have much faith in it myself. Dr. Adair removed a number of these teeth and worked on others, and removed a lot of pus pockets in this

child under 4 years of age. With the exception of the child having slight attacks of measles and chicken pox, and one or two other child's ailments we have had no trouble with that boy since the teeth were removed.

Dr. A. L. Fowler, Atlanta: I am sure we have all enjoyed hearing Dr. Adair's paper very much. I do not think too much stress can be laid upon foci of pus in the mouth, in the gums, in the teeth and in the tonsils. I know that in the last two years I have had some cases of infection that would not clear up at all, not even in the kidneys, until the foci of infection were cleared up in the mouth, whether they were found in the tonsils or in the gums. This was quite true of an infected or suppurating ovary. It was a case that I was asked to see two months ago. This patient made very slow progress until Dr. Adair cleared up the pus infection in the gums, and then after that improvement was rapid.

Dr. J. M. Thomas, Griffin: I have had seven cases of neurasthenia which I could trace directly to Riggs' disease, six were relieved by extracting decayed teeth. Of this number, one patient died, a prominent lady in my town. I would lay great stress upon this subject, as it is one of vital importance to the medical profession.

Dr. Adair (closing). Just a word or two in reference to the remarks made by Dr. Thrash. I can readily understand that if maggots are scraped out of a wound in an animal union will take place. The same thing is true with amebae. They must be removed surgically, and emetin is only an adjunct to the treatment.

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GASTRO-ENTEROSTOMIES PERFORMED DURING THE TWO EXTREMES OF LIFE.*

By **E. C. Davis, A.B., M.D., F.A.C.S.,**
Atlanta, Ga.

Gastro-enterostomies may be considered as strictly a type of tubal plumbing with an accuracy of adjustment and coaptation of tissues not ordinarily observed in non-viable tissues. That this adjustment must be accurate goes without saying, as it must be water tight, and yet allow the free passage of fluids regularly without leakage. The ordinary indications for its use are well known, but a repetition would not be amiss and may prove refreshing. Any interference with the normal passage of food through the pyloric outlet may be considered as pointing strongly toward the needs of some other avenue for passage. Taylor's Operative Surgery gives the indications as follows:

"1. In certain cases of active ulceration of stomach or duodenum: (a) in all cases of chronic ulcer at or near the pylorus which have resisted medical treatment; (b) in certain cases of perforated ulcer of stomach or duodenum; (c) for recurrent hemorrhage from gastric or duodenal ulcer.

"2. For certain conditions resulting from simple gastric ulcer: (a) fibrous stricture at or near the pylorus; (b) perigastric adhesions which seriously interfere with mobility of the stomach; (c) causes of hour glass contraction of the stomach in which constriction separates a large cardia from a small pyloric pouch.

"3. For congenital hypertrophic stenosis of pylorus.

"4. As a palliative measure in inoperable carcinoma of the stomach.

"5. As a step in the operation of gastrectomy, or as a preliminary measure when the operation is done in two stages."

I may be permitted to add certain glandular obstructions caused by syphilis, especially the hereditary type, obstructing the passage through the duodenal tract.

These are the usual indications for operative measure of this kind, but when we

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have to face such operative necessities in patients at the two extremes of life, we confront difficulties that appear at times almost insurmountable.

The two cases coming under my care illustrate the two stages of life where such operative work has proven a great source of relief. The first a man of 72 years who had suffered from a duodenal ulcer and its effects for thirty years. The second a child of 6 who had suffered from some duodenal condition causing so-called pylorospasm since she was 1 year of age, and only relieved by taking morphine in doses sufficient to relieve pain. Both of these cases were diagnosticated by Dr. G. M. Niles, the laboratory and roentgenological diagnosis made by him. He, recognizing the fact that both were mechanical obstructions and not responsive to medical treatment, urged upon them the necessity for operative relief.

In young children the question of so-called pylorospasm or cardio-spasm is an unfortunate designation, as these cases mean either duodenal ulcers or obstructions, and unless one of these conditions exist there would be no pylorospasm. The difficulties of adjusting the jejunum and stomach in so small a child without obliterating the intestinal lumen vision of circular fibers of muscles in pylorus ment. Since investigating this subject the article by Wm. A. Downes, of New York, reciting his experiences in forty-four cases has proven very instructive, and in these cases he has found the best results have followed the modified pyloroplastic operation of Rummstedt, which consists simply in the discauses one to hesitate in his efforts at adjustment to mucous coat, to yield the most satisfactory results. This certainly is not complete surgery, but in the little ones of only a few months of age has yielded less mortality and the best results. After reaching the age of 6 the gastro-enterostomy yields more perfect results and the adjustment may be more accurate. Children do not tolerate prolonged abdominal operations well, and have lowered resistance to shock; so that any operations done upon them must be expeditiously done with the smallest amount of blood lost consistent with thorough work.

The little girl was operated on, and finding the duodenum partially obstructed with a group of glands as large as a small hickory nut obstructing its lumen, with a Wasserman 1 + a gastro-enterostomy was done, and

while it is too early to predict the ultimate results, she left us eating heartily, no nausea, and but little pylorospasm, morphine discontinued and apparently a vigorous little girl.

The other patient was a man of 72 who had suffered from effects of duodenal ulcer for about twenty years, and when examined by Dr. Niles was found to have partial obstruction at pylorus; his stomach was markedly dilated and filled with fetid residuum. He was debilitated and weak, unable to be up but part of a day—urine negative, Wasserman negative.

A rapid gastro-enterostomy was done, and after nearly a week of stormy combat he began to improve. Two years have now elapsed and he writes that he is in better health than for years, eating anything he wants, riding horseback and taking other exercises.

These but show the possibilities in properly recognizing such cases and correcting the mechanical obstructions. The diagnosis and the advice for surgery was entirely the result of Dr. Niles' skill, and I wish just here to emphasize the importance of knowing when such cases should be treated by internist and when they require the work of a surgeon.

Care has been taken to avoid a discussion of the advantages of the various operations, as these are largely individual preferences, evidencing the skill which some possess in the performance of certain types of operation. The great essential to be attained is to secure the most patent outlet for food, and yet, not have it drop through the stomach without being acted upon by its secretions. My preference in these cases has been for the posterior gastro-jejunostomy, when indications are favorable for its expeditious performance and accurate adjustment of the tissues. The pyloroplastic operations are to be preferred in a certain group of cases, but the lack of permanency in the results in a few cases has caused a hesitancy in the performance unless we could get a markedly mobile duodenum and easily accessible.

Another feature which should be emphasized is that ulcerative conditions confined to the duodenum are rarely malignant, but they show a strong tendency to extend beyond the pylorus, and when they do the malignant changes often take place, and what was for a long time a simple ulcer becomes a pyloric malignancy. The Mayo clinic has shown a

radical change in their observations of the location of ulcerative conditions; in their earlier work they recognized more ulcers in the stomach, and especially the pyloric extremity, and now the duodenal ulcers exceed the gastric to a striking degree. The chief feature of interest in these conditions is that the duodenal ulcers rarely are malignant until they pass beyond the pylorus, and if the irritating effects of food are promptly removed there is no reason for malignancy to develop.

The continued patency of the pylorus is observed in many of these cases, and its closure, as advocated by Kummell, insures relief from the irritating effects of passing food, but there is a marked tendency on the part of nature to re-establish this passage and cause a certain amount of food to pass again through this opening.

It has been found that fully 98 per cent of the duodenal ulcers are within an inch or an inch and one-half of the pylorus, so that the short loop in the gastro-enterostomy accomplishes the best results.

In preparation of this paper I wish to again express my appreciation of the work and skill on the part of Dr. Niles, as I alone was the artisan while he did the real scientific work of diagnosis. One of these plates was furnished me by him from a case of Dr. Willis Jones, showing benefits of operative relief two years after operation.

DISCUSSION ON THE PAPER OF DR. DAVIS.

Dr. George M. Niles, Atlanta: I was quite intimately connected with Dr. Davis in some of these cases. I worked them up, and in doing so Dr. Davis and I co-operated with each other.

In the case of the old gentleman Dr. Davis was not at all anxious to operate. This man was 72 years of age; he was feeble-minded. He had led a regular life in the past, and I could not make out any signs of malignant trouble. I felt from my inner consciousness and investigation that it was simply a case of starvation. When I took him to Dr. Davis and advised that he be operated upon, Dr. Davis' feet immediately grew cold, and I had to nurse Dr. Davis to warm his feet to get

him to operate. However, as it was, the case turned out all right, and operation was indicated.

In the little girl something had to be done. She was in my office on one or two occasions and ran out of the building. She cried terribly, so that we were only too glad to do something for her.

These cases show that under certain conditions, where obstructions are taken away, absolutely ideal results are obtained.

We worked these cases up together, and in this connection I would like to say that the internist, the surgeon, the gastro-enterologist, should all work together. There is no fight between us at all; there is no divergence of opinion; it is united we stand, and divided we fall. We are anxious to get results for our patients, and when we find these mechanical obstructions we should strive to relieve them by surgical means. We can not do very much with medical treatment. The idea of trying to treat this old man with obstruction by means of medicine and expecting to get relief is absurd. That old fellow took enough medicine to float the Titanic. I claim that when we get hold of a case like that, it is the duty of the internist to call in a surgeon and have an operation performed for the relief of the obstruction. I do not think it is well to jump right in and operate at once. I do not believe in that, but if after a careful physical examination, together with the clinical history and the X-ray findings, a diagnosis of obstruction is made, then the patient should be operated upon, and the sooner the better.

Dr. C. C. Harroid, Macon: I would like to ask a question with reference to one of these cases. Dr. Davis said he did not think any operative interference would help us in a case of marked ptosis of the stomach. I would like to ask him if he has done any suspension work in these cases, and if he has done it, whether he has obtained any benefit from shortening the gastro-hepatic ligament after the manner of Coffey. I have had the misfortune to have had two such cases, one of which improved greatly following the operation, and the other did not seem to improve at all.

Dr. J. T. Rogers, Savannah: I would like to say a word or two in regard to the relief we get in those cases where there is obstruction. Formerly, we were rather slow in turning our cases over to surgeons when there

was obstruction, but in the last few years we have found that these cases can not be relieved without surgical treatment. We cannot get along without the surgeon, and in the last eighteen months we have had twelve cases that were operated on. We did the operation that has been described by the essayist, and in every case there has been complete relief with the exception of one case which was operated on about six weeks ago, and it is too early to tell what the ultimate outcome in that case will be. Those that have been operated on from twelve to eighteen months have had no return of the trouble whatsoever, and we feel that it is the operation to be done when the condition spoken of exists. It is the only thing we can do.

Dr. A. H. Bunce, Atlanta: Just a word or two with reference to the case of the little girl. You notice Dr. Davis stated that the case gave a one plus Wassermann reaction, and the statement is usually made that where a case gives a weakly positive Wassermann, one is not justified in making a diagnosis of syphilis in every case. I have observed in congenital cases where we have visceral lesions, the Wassermann reaction is weakly positive, if it is positive at all.

You probably recall the case of syphilis of the stomach which Dr. Davis reported. In no one of these cases did the Wassermann show at any time stronger than one plus positive.

Some recent work has been done by the Rockefeller Institute on cases that showed a slightly positive Wassermann reaction, and they found evidences of visceral lesions in the great majority of cases where the test showed only a slight positive reaction, and in some cases only was it justifiable to institute treatment.

This mass of glands removed by Dr. Davis showed typical granulomatous changes which would confirm the diagnosis of syphilis in these cases.

Dr. Davis (closing): I have very little to add except to answer the question of Dr. Harold, and that is, in these conditions of ptosis and splanchnoptosis many of the viscera are out of place as well as the stomach, and operative interference has not been satisfactory in my hands in many of the conditions of this kind. A few of them may be relieved. I have particular reference to those cases in which gastro-enterostomy has afforded imme-

diately relief, and this might have something to do with the correction of the tendency to ptosis.

As I have mentioned, my laboratory work has been done by Dr. Bunce, and it was upon his report that I based the opinion of the condition being syphilitic in the little child. She was given also anti-syphilitic treatment in conjunction with the operative procedure, and was instructed to keep that up after she had gone home. A recent message states that she has continued to do well and promises to be a vigorous and healthy child in the place of a crying and a weak child such as she was when she was brought to us.

WARNING.

We are advised that a very clever swindle is being worked by a young man calling on physicians in various sections of the country. He is fraudulently soliciting orders and collecting money for subscriptions to medical journals and for medical books published by various firms. He usually represents himself as a student, working his way through college and trying to get a number of votes to help him win a certain contest. He sometimes uses the names of L. D. Grant, H. E. Peters, R. A. Douglas and F. C. Schneider, and he usually gives a receipt bearing the heading of some society or association, such as United Students' Aid Society, the Alumni Educational League, the American Association for Education, etc.

The description given of this swindler is: Young man of the Jewish type, rather slender, with very dark hair combed straight back and shows his teeth plainly when talking.

The whole scheme is a fraud. The societies mentioned do not exist. The idea is to collect money by offering special discounts and prices on medical books and journals and skip with the money.

An advertisement in The Journal of the Medical Association of Georgia will bring results. Rates sent on request.



Fig. 1.
Typical Non-toxic Adenoma.



Fig. 2.
These large adenomata are not usually difficult to remove.

**SOME OBSERVATIONS ON GOITER
BASED ON A STUDY OF 206 CASES.***

By Edward G. Jones, M.D., Atlanta.

Since 1909 we have studied in detail the cases of 206 patients affected with diseases of the thyroid. Three-fourths of these have presented themselves within the last two years. The information collected covers an extensive field and is entirely too voluminous to present within the time allotted.

I. Clinical Types.

It develops that the adenoma is, at least in this part of the country, a very frequent type of goiter. The table below indicates a general clinical grouping of these patients.

I. Adenomata—	
Non-toxic	45
Toxic with exophthalmos.....	5
Toxic without exophthalmos.....	12
II. Parenchymatous—	
Non-toxic	52
Mildly toxic	14
Frankly toxic without exophthalmos	20
Toxic with exophthalmos.....	25
III. Degenerating Colloid	12

IV. Simple Cysts	4
V. Congenital (Cretin)	1
VI. Miscellaneous (Pregnancy, etc.)....	5
VII. Unclassified	11
Total	206

The non-toxic adenoma presents, perhaps, the least difficult problem in thyroid operations. We have found the toxic adenoma with exophthalmos relatively rare, though we have quite frequently found toxic adenoma without exophthalmos.

The most frequent parenchymatous goiter has been that appearing at puberty. In only two cases in our series has this goiter of puberty been responsible for frankly toxic symptoms within the first two years of its existence. It is significant, however, that a large percentage of the patients in this series presented a history of a goiter which appeared at puberty, supposedly disappeared, and in later life gave rise to troublesome symptoms.*

Our rule, in reference to these goiters at puberty is to advise against operation, except, of course, when plainly troublesome symptoms have arisen.

We have listed as mildly toxic 14 parenchymatous thyroid enlargements. These pa-

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* Jones, E. G., A Study of 48 Cases of Goiter, Southern Medical Journal, April, 1913.



Fig. 3.

Enormous retrosternal adenoma reaching to base of heart. No troublesome hemorrhage on removal.



Fig. 4.

Typical small thyroid, causing toxic symptoms without exophthalmos.

tients have usually exhibited some symptoms of over secretion, such as tachycardia when out of bed, ease of exhaustion, and a degree of nervousness which at least places the thyroid under suspicion.

Those parenchymatous goiters which have exhibited frankly toxic symptoms without exophthalmos have furnished some of the most difficult problems in the whole series. It is frequently a greater draught upon one's judgment to determine what is proper for these patients than for those with exophthalmos. The enlargement is usually moderate, and in a few instances has been doubtful. In no instance, however, when there was doubt about thyroid enlargement has pathology in the thyroid failed to be revealed if the patients came to operation.

Of those patients with parenchymatous enlargement and toxic symptoms including exophthalmos quite a number have been considered unsafe risks for thyroidectomy. They have usually been improved by ligation of the superior poles, or by injection of boiling water, or by both.

We have listed 12 of these goiters as degenerating colloid for lack of a better clinical disposition.

The number of simple cysts seems relatively small.

The cretin is improved under the influence of thyroid extract, the thyroid enlargement being greatly decreased.

II. Thyroid Operations.

Some 65% of these patients studied have been advised to submit to operation of one sort or another. The frequency of the different operative procedures is indicated in the appended table:

Simple enucleation adenomas.....	20
Enucleation adenomas with partial bilateral thyroidectomy	15
Enucleation adenomas with unilateral resection and ligation opposite pole....	5
Partial bilateral thyroidectomy for parenchymatous hypertrophy or colloid degeneration	11
Unilateral thyroidectomy for parenchymatous hypertrophy	5
Enucleation cysts	3
Ligation both superior poles.....	11
Injection boiling water.....	9
Special operations	6
Total	115

When a single adenoma is present it would seem that its enucleation would commonly be all that is indicated. As a routine, however, we have almost always in such cases exposed the whole thyroid, and have usually discovered that a good portion of the remaining tissue showed evidence of pathology. Frequently, also, other small adenomata, not discovered before operation, have been found,



Fig. 5.

This man is 6 feet 4 inches tall. His exophthalmos and other symptoms first appeared at the age of 16. No other tall member of the family. Father 5 feet 11. Two brothers, 5 feet 9. Mother about 5 feet 4. One sister about 5 feet 5.

so that as a general proposition, we have usually removed a good part of the remaining tissue. Occasionally we have enucleated the adenoma and ligated the superior poles in addition.

It will be noted in the table that we have most frequently resected most of both lobes. We have practiced this general preference from the beginning of the series, and believe it is largely responsible for our not being embarrassed by the necessity of subsequent operation on the same patient. We have practiced unilateral thyroidectomy only when it was plainly indicated that further intervention was unnecessary, and when (in case of a toxic patient) the time required to remove the smaller lobe might jeopardize the patient's welfare. In this latter instance, we, of course, hold that a second operation, if necessary, would be more sensible than the alternative.

In our early experience ligation of the superior poles was not satisfactory. In our later experience the contrary has been true.

In general we have utilized the injection of boiling water with some trepidation, at least unless the gland were exposed so that one could be accurate in the injection. Usually in the last two years when we have ligated the superior poles we have injected



Fig. 6.

Cretin with goiter. Marked improvement in cretinism and size of goiter has resulted from the use of thyroid extract.

boiling water at the time. Recently, also, when, in the case of toxic patients, removal of the second lateral lobe has seemed unwise because of the patient's condition we have exposed the lobe and injected it freely. While we have had no accident from the use of boiling water, we doubt its propriety in small thyroid enlargements unless, indeed, the thyroid be uncovered as above indicated.

III. Operative Mortality.

The table below requires no special comment:

From post-operative hyperthyroidism (No. 6, 1909).....	1
From pulmonary embolus (No. 27).....	1
Within past four years.....	0
Total	2

The first death, it will be noted, occurred in 1909. By no means would we have had this death within the last three or four years, because with more experience it would have been recognized that this patient would not survive a radical operation. The second patient was a victim of a catastrophe which constantly haunts the steps of the surgeon, and against which he is largely powerless.

We have, therefore, had one death from an error of judgment. This allows us to

say that good judgment and common honesty constitute the most precious commodities in the surgical profession. The surgeon deserves the humiliation he feels when an error of judgment permits an unforeseen fatality. We can never attain to infallibility; but an unforeshadowed lethal issue ought never to be merely surprising, or even astonishing—it ought to be astounding. But while fallible judgment is costly it is not criminal. So much can not be said of the violation of that other attribute, common honesty. Adjectives do not exist properly to label the utter reprehensibility of operating on patients who do not need operations.

IV. Complications.

We believe there have been as few embarrassing complications during and following the operations performed as one could expect in any series of major operations.

In one instance (92) a median growth afforded considerable embarrassment to respiration until it could be uncovered and lifted from the trachea. In the second instance (185) an enormous retro-sternal goiter afforded similar embarrassment, but after the muscles had been cut and the growth allowed to ascend somewhat.

In one instance, although the patient exhibited only moderate tachycardia before operation, the rapidity of the pulse during operation gave us concern.

In six cases the post-operative hyperthyroid reaction was severe enough to disturb us. By no means, however, in such cases is a pulse of 150 or 160 of itself by any means so serious as a similar pulse rate from shock. If the patient have a good heart muscle and be otherwise approximately sound such a reaction need not cause alarm. Indeed, a pulse of 150 and a temperature of 103 may be expected in many of these patients who have toxic symptoms.

Secondary hemorrhage occurred once. The fact that this happened twenty-one days after the operation we feel clears us of a technical error. The superior thyroid was found bleeding.

In three instances (93, 114, 126), there was marked hoarseness for six to ten weeks. It is difficult to find in literature much information about this complication. Private inquiry and observation justify the statement that it happens more commonly than is publicly admitted. Happily, however, contrary

to what was supposed a few years ago, the voice seems to be regained if the nerve has been merely injured, or even perhaps if one nerve be cut. All three patients recovered their voices rather suddenly after periods varying from six to ten weeks. In only one of these patients do we believe it possible that the nerve was actually cut. This patient suffered disturbing cyanosis on the table. Indeed, the trachea was opened for her relief. For a week or more following operation she choked when swallowing fluids especially. This choking gradually disappeared and her voice was later fully recovered, although her respiration is still a little labored on exertion.

There has been no wound infected—a circumstance of moment to the patient when the location of the scar is considered.

In only one instance have we found it necessary to operate a second time. This was patient No. 2 in the series. Too little gland was evidently removed. In the case of the patient referred to above (96) as having developed disturbing tachycardia on the table, the circumstances made it wise to conclude the operation promptly, so that we removed less gland than we would have liked. While this patient has greatly improved, having gained twenty-five pounds in weight, her pulse rate has not been satisfactorily controlled. We believe this could be corrected by removing more of the gland, but the patient considers herself so much improved that she declines further interference.

One patient (82) who exhibited choreic movements was entirely relieved on this score for some six months following operation, but since that time has been troubled in the same way again. We would not have it understood that this patient was operated on for the cure of chorea. We were merely highly gratified that it disappeared following operation.

In case of No. 88 a toxic adenoma was simply enucleated. The remainder of the gland appeared to be normal, and was not disturbed. The patient gained 25 pounds, lost all her symptoms, including her tachycardia, and considers herself entirely well. She developed, however, a most contradictory symptom, in that in the face of the above improvement she began to show a moderate exophthalmos with some enlargement of the gland. She has considered herself so well that we have not advised fur-

ther operative interference. The enlargement and the exophthalmos have practically disappeared following injection of boiling water.

We purposely have risked misapprehension in presenting the above statistics of occurrences which, while not serious, were temporarily disturbing, rather than statistics of gratifying results. To offset any such misapprehension we hope we may be indulged in the deliberate statement that those persons who have been operated upon by us for goiter constitute a more satisfied and grateful set of patients than any other set of patients upon whom we have operated for anything whatever.

The proper treatment of goiter patients, as a class, calls for the very highest degree of surgical judgment; and while these patients have taxed our faculties as no other class of patients has taxed them, the final results justify any degree of special endeavor which may have been undertaken to protect and relieve them. We have no other asset of this nature so valued and so valuable as these patients.

DISCUSSION ON THE PAPER OF DR. JONES.

Dr. George M. Niles, Atlanta: A number of cases are diagnosed as nervous indigestion simply because practitioners do not take the trouble and pains to go minutely into the etiology. Nervous indigestion covers a multitude of diagnostic sins, and in a number of instances the manifestations of the patient are those of incipient goiter, just like in a number of instances we have manifestations of incipient tuberculosis. Some of these cases have later on come to me with no thought of hyperthyroidism, but with the suspicion that they were cases really of nervous indigestion, as it was called, and those were the first symptoms of trouble.

I can not discuss in a critical or surgical way the paper of Dr. Jones, but I wish to stress the one point, that quite frequently the first symptoms of incipient hyperthyroidism express themselves in the digestive system.

Dr. W. S. Goldsmith, Atlanta: This is a very interesting collection of surgical data that Dr. Jones has presented to us. My experience in operating upon goiters has been

rather unique, in that I see twice as many goiters as I operate upon. Probably this is due to a lack of confidence on the part of the patient, or Dr. Jones has operated on some of these cases I have turned down. I do not know as to that. But I see a great many goiters in young women of 15 and 16 and 17 years of age, small goiters that I do not think ought to be operated on. I see many people who think they have goiters, but they do not have them. I see people who think they have hyperthyroidism. The ladies in Atlanta have gotten to be quite keen on this subject because a great many people have evidences of hyperthyroidism without a large tumor or without any manifest signs of goiter, so that the matter of goiter surgery is a little peculiar.

During my last visit to Rochester, Minn., last fall, I asked a member of the house staff the question as to why so many small goiters were operated on and very rarely any of the large goiters which composed a large group of these cases several years ago. He explained it readily by saying that goiter surgery had developed so much and so many practitioners were removing these large goiters and causing so much disfiguration that patients did not come to them as often as they did before. I noticed also in Cleveland and in Murphy's Clinic, Chicago, they are taking out the little goiters.

Most of the goiters I operate on are cystic or large goiters, not that I do not think that some of the small ones should be operated on. The point I would like to make is that many people have small goiters, especially in girls and young women, that should not be operated on. They should be subjected to medicinal treatment, hygiene, and measures of that nature. The removal of large goiters is one of the simplest operations of major surgery.

The accident that has occurred in Dr. Jones' experience has been unfortunate, in that he has had so many cases of extreme hoarseness following operation. That is the bugbear of all goiter surgery next to acute hemorrhage, namely, injury to the nerves and tissue, thus bringing about loss of voice.

Dr. C. C. Harrold, Macon: Dr. Jones is abundantly able to take care of himself, but I must say, I do not think his results are at all bad, and if all members of the profession were as conscientious in their reports as he is we would find more than three out of 115

patients were hoarse. I have had nothing like this series of cases, but I have operated on about ten cases of goiter, and of that number two were hoarse for a while. I do not believe the recurrent laryngeal nerve was cut or pulled on, and if you get a hemorrhage around it that will make the patient hoarse for a while.

I will take issue with Dr. Goldsmith as to the indications for operation in these cases. I believe the vast majority of them should be operated on. I have among my acquaintances two women whose lives have been mis-spent because they had goiters; they were toxic, and were not operated. Neither of these women has ever had children, because when they became pregnant the toxic symptoms were very much aggravated. These women should be operated on as I think most women who have goiters should.

Dr. J. T. Rogers, Savannah: I would like to ask one question: If one lobe is diseased and removed, is the other afterwards especially liable to become diseased?

Dr. J. L. Harris: Goiter has been looked upon as a toxic condition of the intestinal tract. Crile has shown us that it is due to a reflex nervous condition. Dr. Goldsmith has well said that probably the majority of goiters do not need any operation. I think the reflex nervous conditions that occur at the time of puberty, especially in young women, are occasionally noted in the male. I have seen a number of cases in young boys at the age of 12 to 15. These cases are not operable at all. As Murphy has pointed out, it is better to put young women of 14 in bed for six to twelve months and keep them quiet while they are going through the stage of puberty and avoid operation. After that stage has passed and menstruation is well established, and a large goiter forms or has started, then operation might be considered. The goiter should be removed and the gland resected.

I visited the Mayos in 1913, and at that time they were looking over their cases of goiter which they thought were due to toxic conditions in the gastro-intestinal tract.

During the past two years, from the work done by Roberts, of New York, and Crile, of Cleveland, it has been proven that hypertrophy of the thyroid gland is due to a reflex condition of the body or to shock. Very frequently we find this condition associated with pelvic inflammatory lesions, such as a

fibroid tumor, a lacerated cervix, or excoriation of the cervix. These conditions we find not infrequently in young women between 15 and 21, with goiter and toxic goiter. I have several cases now who have small goiters that are toxic, and we know that a retroversion of the uterus or excoriation of the cervix and vaginitis will cause reflex conditions of the thyroid and thyroid development. Instead of resecting the thyroid, let us correct the pelvic conditions and get rid of it.

Dr. Charles Mayo last summer stated that every woman between the sixth and seventh months of pregnancy showed hypertrophy of the thyroid, and that if this did not occur, one should look out for eclampsia before delivery. The post-operative conditions which we see in so many of our cases where we have sudden deaths are sometimes due to an acute hyperthyroidism. I know several cases that have been in that way. The shock of a pelvic operation would produce hyperthyroidism in twelve hours after operation, with the temperature running up to 102 degrees, pulse 120, followed by death on the third or fourth day. We also know that a toxic condition of the thyroid will produce skin eruptions and different forms of dermatitis, and I believe a great many diagnoses of pellagra and similar conditions have been overlooked from the fact of their being a hyperthyroid condition.

Dr. J. Lawton Hiers, Savannah: I think this paper Dr. Jones has favored us with shows a wonderful amount of research work, and it is certainly very edifying to us all. The principal part of my work is the eye, ear, nose and throat, and I am always glad to have the general surgeons take care of goiters when it comes to the surgical side of treatment; but referring to those goiters of a toxic nature and to young women, it might be of interest for me to report a case I had about six months ago. I saw a young woman from the country, about 18 years of age, whose general appearance would indicate that she was in a healthy condition, but close and careful examination showed she was quite anemic and nervous, and both lobes of the thyroid gland were fairly large. She did not sleep very well and had complained about two months prior to her seeing me. The enlargement appeared rather suddenly. On examination of the throat I found she had a large adenoid, with a fetid postnasal

catarrh, and two large encapsulated tonsils; the crypts were filled with a decomposed, badly smelling, cheesy-looking stuff, and I advised the removal of the tonsils and adenoids as a starter. This was done, after which I put her on syrup of hypophosphites, citrate of iron, and arsenic, and in about six weeks after the removal of the tonsils and adenoids the goiter had completely disappeared, and although that was about six months ago she has not shown the slightest sign or discomfort from goiter.

Referring especially to these toxic types of goiter, I would like to ask Dr. Jones—because I know he has given it more study than any man probably in the United States—what has been his observation as to the kind of toxic poisoning and the source from which the patient derives it?

Dr. Jones (closing): With reference to the remarks made by Dr. Goldsmith that a great many of these young people, especially at puberty may unwisely submit to operations for goiter, I wish to say, it may be that a great many of them ought not to be operated on, but we do not think so from our experience. While some have been advised to undergo operation, they have not been subjected to it. In a rough sort of way, half of the people we see with goiters are not advised to submit to operation.

The statistics I have collected show that many women who were troubled with goiter at puberty and were not operated on for it, still have the disease. That information is significant.

Information has been collected with regard to the prevalence of pelvic disease in women who have goiter. There are many women with pelvic disease who do not have goiters; nevertheless, the information is at hand and can be furnished. I feel a great many people are promiscuously operated for goiters that need not be operated upon. They may not be harmed by operation, and they may be helped. The cases for operation should be selected with circumspection.

I wish to thank Dr. Harrold for giving his experience. I put the statistics in this way negatively on purpose. If they read the other

way the results would be highly gratifying. You can not find much about hoarseness following prolonged operations on the thyroid; nevertheless it happens, and the statistics, as given, are not favorable as compared with the other statistics in that respect. The recurrent laryngeal nerve is a bugbear in the average operation for goiter. It necessarily adds to the time consumed in the operation in the care required to protect it, and yet if one should cut one of the nerves the patient will in time regain the voice. I do not think our experience has been unfavorable as compared with the experience of other individuals.

Dr. Rogers asked whether, if one lobe is diseased and removed, the other is liable to become diseased? I can not answer that question definitely. If a woman has an ovarian cyst connected with one ovary, there is no reason why there should be a cyst connected with the other ovary. One individual can get along with one cyst of the thyroid anyway. If there is any doubt, I remove a part of the thyroid tissue on the other side to see if it is not diseased.

As to Dr. Hiers' question, regarding the toxic condition and the source from which the patient derives it, I can not answer the question satisfactorily. All we know about the causation of goiter is that those circumstances which debilitate an individual seem to predispose to the development of goiter; but that does not at all explain the occurrence of these goiters in women four times to one in men. Anything that depresses an individual predisposes in that direction, yet I would not care to say that the occurrence of puberty has a depressing influence.

The more money The Journal of the Medical Association of Georgia makes out of its advertisements the less it costs the State Association to run the paper. This means that every member of the State Association has an interest in the advertising columns. If one business firm advertises and another does not, patronize the one that does. It is money in your pocket.

REPORT OF AN UNUSUAL CASE OF TUBAL PREGNANCY TERMINATING IN RUPTURE.

E. M. Stokes, M.D., Jakin, Ga.

I report this case to the profession at large not only because many older members of the profession have and will probably never encounter a similar one, but for the triple reason of rareness of occurrence, untoward symptomatology, and to advocate and impress the extreme importance of our ever being on the alert in handling any and all cases of abdominal abnormalities in the female which present anything of a serious aspect or import.

This case represents my only experience of this kind, and I frankly admit that I enjoyed only a narrow margin of escape from one of our rather common errors of omission, namely, a laxity of our trained powers for perception and exhaustive investigation as applied in time for the patient's good or even recovery.

I would ask the reader to note carefully the history of this case, which disclosed practically nothing to aid in the diagnosis, and especially the untoward symptoms, with a total lack of some of the most cardinal.

Mrs. Blank. Age 24.

Past History. Married seven years. Aborted first pregnancy six years ago, at third month. Full recovery. Mother of a boy, age 4, and of twin boys, age 18 months. All fine specimens of physical development and health. I delivered her of the twins, the labor process being normal and recovery being complete and uneventful.

Patient has always been very active, and is endowed with more than the usual amount of physical health and activity.

Present Illness.

Began on morning of January 26th last. At 9 a. m., patient lifted a heavy churn of milk from floor to table, and this attack immediately began. She was seized with violent cramping pains in lower abdomen. I was called and reached her within half an hour. I found her in the hands of well-meaning, but erroneous, lady friends, who were trying to undress her, much to her agony.

I realized that her condition was serious, and had all handling stopped, putting her

on bed flat of back, which was the only position she could endure. On examination I found radial pulse of 90, and of good volume. Continuous, excruciating pain was complained of in lower abdomen, said pain being *general* and *not* unilateral or localized.

On attempting very gentle palpation, she almost collapsed from the mere weight of my hand. Even the bed linens were sufficient to evince a scream.

Abdomen at this time was very little, if any, distended or rigid. Bowels had acted well, as usual, earlier in the day. I administered morphia, 1-8 hypodermatically, with no effect at all, and began applying hot cloths to abdomen which I found to greatly increase her suffering.

I repeated the morphia every hour for the ensuing eight hours with almost no effect. By noon the pulse had reached 100, and was becoming wiry and of a lesser volume. Typical facies abdominalis present, with a beginning cold perspiration. "Fainty" feelings becoming evident, and pains so severe as to almost stop respiration. Pains had now become distributed over entire abdomen, and radiated through to back. There was still no localization of pain, and but little distension or rigidity.

By 2 p. m. pulse was 110 and very wiry. Facies abdominalis extreme, and nausea being complained of. At 5 p. m. patient had never been moved, and the weight of her own hand on abdomen was torture to her. Pulse 120, and growing weak.

I had been unable to even touch abdomen up to this time, but had been resorting to lateral inspection of it for the past four hours. I now began to be able to detect a slight fullness in right, lower quadrant, which, as time passed, became more and more evident. With the aid of the other few symptoms present, I now made my definite diagnosis.

I had learned earlier in the day that patient was six weeks pregnant, presumably, and will admit that I at first suspected threatened abortion. Therefore, I naturally set about making a vaginal examination, but thought twice before acting once, hesitated, and finally desisted, thereby saving patient's life probably, for such an act would likely have dislodged a clot temporarily plugging the ruptured tube, proving fatal to her.

The diagnosis of ruptured tubal pregnancy having been made, I at once called for sur-

gical aid and intervention, which was granted. Fortunately, a reputable gynecologist was near, Dr. A. E. B. Alford, of Bainbridge, Ga., whom I summoned. My diagnosis was confirmed, operation advised and accepted. Putting patient on a cot, we made a running trip of thirty miles to his hospital, where laparotomy was performed.

Operation.

Long, median incision was made. Before incising peritoneum, a dark, bloody fluid could be seen underneath. On opening this membrane, about two quarts of a dark, sero-bloody fluid poured out.

Right Fallopian tube found and brought up, disclosing a rupture of pea size in the cornual portion. Tube ligated and a portion resected. Great clots and much fluid blood found all through abdomen, and up under liver, all of which was removed and careful sponging followed. Careful peritoneal toilet. Closed. Patient in extremis. Put to bed. Artificial heat applied. Murphy drip instituted. Uneventful recovery, except for an acute anemia. Discharged from hospital in third week. Patient well at present.

Summary.

First. These cases are very rare in general practice, so far as I can learn, my father having never seen a case, and he has been practicing for twenty-six years. This, in the main, is substantiated by other old practitioners in this part of the state.

Second. We should, and must, be professionally wide-awake when handling abdominal cases of a serious nature in the female.

Third. Absolute quiet and nothing to be given orally until diagnosis is arrived at.

Fourth. Total abstinence from all vaginal examination or manipulation until this condition is ruled out.

The cases against Drs. Malloy, of McRae, and J. S. Marsh, of Porterdales, for having fraudulent licenses issued to them from the Eclectic Board and dated May 3, 1913, were postponed until the October meeting. I have the records of the Eclectic Examining Board which show that on May 3, 1913, 64 applicants stood their examination at the state capital in Atlanta. A member of this board, Dr. L. F. Bugg, of Carnegie, Ga., copied this list at the time that the examination was held and he has sent me the list of names which he had, and with the exception of two names his list corresponds with the Eclectic records. It is said that Dr. C. W. Miller, who was secretary of the Eclectic Board, in the latter part of September and the early part of October, 1913, two months after his board had been abolished, issued about 28 fraudulent licenses, for which he received various amounts of money. In getting the reports from the clerks of the superior court from the different counties in the state I have about 28 names that are not on the Eclectic records, nor the list furnished me by Dr. Bugg. I do not know the addresses of some of these physicians, and I would appreciate it very much if you would publish this list which I am enclosing to you.

Our board has passed a resolution that I notify these 28 doctors to appear before our board in October and show cause why the medical license which they have should not be declared void. If you will publish this list with the request that any one who reads *The Journal of the Medical Association* if they know the addresses of any of these doctors that they write them to me, I think I will be able to locate every one of them.

Very truly yours,

C. T. NOLAN,

Secretary.

STATE BOARD OF MEDICAL EXAMINERS OF GEORGIA BUSINESS MEETING.

June 12, 1916.

At this meeting the license of Dr. M. W. Hancock-Lewis, of Carrollton, was revoked upon the grounds that he had been convicted of larceny after trust. The records of the Haralson County superior court had other charges against him, but this was the one upon which the case relied principally.

List of Eclectic Physicians Whose Addresses Are Not Known.

Wm. H. Ayler, Edwin C. Smarmt, Karl L. Able, E. M. Nichols, W. R. Rothrock, Talley A. Armstrong, O. A. Price, Wm. E. Middlebrooks, Samuel B. Ellis, Howard Vanetta, L. Appleton Savage, Edward L. Hosmer, Frank E. Gaylas, Vosgan A. Avakin, Albert E. Hazel, Wm. E. Wingard, Lester L. Lightner, C. W. Laibee, Chas. C. Dunbar, W. B. Prescott.

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NEWS: Our readers are requested to send us items of news of a medical nature, also marked copies of local newspapers containing matters of interest to physicians. We shall be glad to know the name of the sender in every instance.

QUESTIONS EVERY MOTHER SHOULD ASK HERSELF.

At the close of the day every mother might ask herself the following questions, to be sure that she has considered the important things in feeding her children:

Did each child take about a quart of milk in one form or another?

Have I taken pains to see that the milk that comes to my house has been handled in a clean way?

If I was obliged to serve skim milk for the sake of cleanness or economy, did I supply a little extra fat in some other way?

Were the fats which I gave the child of the wholesome kind found in milk, cream, butter, and salad oils, or of the unwholesome kind found in doughnuts and other fried foods?

Did I make good use of all skim milk by using it in the preparation of cereal mushes, puddings, or otherwise?

Were all cereal foods thoroughly cooked?

Was the bread soggy? If so, was it because the loaves were too large, or because they were not cooked long enough?

Did I take pains to get a variety of foods from the cereal group by serving a cereal mush once during the day?

Did I keep in mind that while cereals are good foods in themselves, they do not take the place of meat, milk, eggs, fruit, and vegetables?

Did I keep in mind that children who do not have plenty of fruit and vegetables need whole wheat bread and whole grains served in other ways?

Did each child have an egg or an equivalent amount of meat, fish, or poultry?

Did any child have more than this of flesh foods or eggs? If so, might the money not have been better spent for fruits or vegetables?

If I was unable to get milk, meat, fish, poultry, or eggs, did I serve dried beans, or other legumes thoroughly cooked and carefully seasoned?

Were vegetables and fruits both on the child's bill of fare once during the day? If not, was it because we have not taken pains to raise them in our home garden?

Did either the fruit or the vegetables disagree with the child? If so, ought I to have cooked it more thoroughly, chopped it more finely, or have removed the skins or seeds?

Was the child given sweets between meals, or anything that tempted him to eat when he was not hungry?

Was he allowed to eat sweets when he should have been drinking milk or eating cereals, meat, eggs, fruit, or vegetables?

Were the sweets given to the child simple, i. e., unmixed with much fat or with hard substances difficult to chew, and not highly flavored.

Was the food served in a neat and orderly way and did the child take time to chew his food properly?

DO YOU KNOW THAT

There is no Federal institution in the continental United States for the reception and care of lepers?

HEALTH INSURANCE.

Twenty-five out of every 1,000 employes in American industries, according to recent statistics, are constantly incapacitated by sickness, the average worker losing approximately nine days each year on this account. This "non-effective rate" for the great army of industrial workers in the United States barely suggests the total money loss to employers and employes. The lessened efficiency, the effects of reduced earnings in times of sickness, as well as the cost of medical attention, and the economic loss from deaths, swell the cost to industry and to the nation to almost incalculable figures.

That much of this loss is nothing less than preventable waste and that this waste can be largely reduced by a properly conducted system of governmental health insurance for wage-workers are conclusions set forth in Public Health Bulletin No. 76, containing the results of a study of "Health Insurance—Its Relation to the Public Health," just issued by the United States Public Health Service.

The preventive value of health insurance is given especial emphasis in this study. "Any system of health insurance for the United States or any state should at its inception have prevention of sickness as one of its fundamental purposes," says the bulletin. "This country should profit by the experience of European countries where prevention is being recognized as the central idea necessary to health insurance if health insurance is to attain its greatest success in improving the health and efficiency of the industrial population."

Such a system, it is pointed out in the bulletin, would

1. Provide cash benefits and medical service for all wage-earners in times of sickness at much less cost than is now possible. Adequate medical relief would thus be placed within the reach of even the lowest paid workers who are most subject to ill-health.

2. Distribute the cost among employers, employes, and the public as the groups responsible for disease-causing conditions and afford these groups a definite financial incentive for removing these conditions. This can

be done by means of small weekly payments from employes, supplemented by proportionate contributions from employers and government at a rate reducible in proportion to the reduction of sickness.

3. Become an effective health measure by linking the co-operative efforts of the three responsible groups with the work of national, state and local health agencies, and by utilizing these agencies in the administration of the health insurance system.

4. Afford a better basis for the co-operation of the medical profession with public health agencies.

5. Eliminate the elements of paternalism and charity-giving by making employes and the public, as well as employers, joint agents in the control of this fund.

"A governmental system of health insurance," concludes the study, "can be adapted to American conditions, and when adapted will prove to be a health measure of extraordinary value."

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Pellagra may be prevented or cured by proper diet?

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2. That oil which possesses the highest natural viscosity, with the highest specific gravity, because such an oil will pass through the intestine more slowly than a lighter and thinner oil and lubricate the walls of the gut more completely, and soften faeces more effectually, and is not likely to produce dribbling.
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SOME OF THE VALUES OF THE CYSTOSCOPE AS AN AID TO DIAGNOSIS.*

E. P. Merritt, M.D., Instructor in Genito-Urinary Surgery, Atlanta Medical College, Medical Department, Emory University. Urologist to the Atlanta Anti-Tuberculosis Association.

The cystoscope is an indispensable instrument to the modern urologist. Without the knowledge of putting it into practice and doing so, many grave states are treated without the proper diagnosis or clear knowledge of the condition present. Before we may intelligently use the cystoscope it is essential to know and be familiar with the instrument itself and the normal anatomy of the field in which we work. To go into these two subjects alone in detail would more than make a long paper; therefore, they will be covered briefly.

The cystoscopes in common use are the "direct" and "indirect" view. Also the

"cysto-urethroscope" is very valuable. In justice to ourselves and patients, it seems essential that we should have at hand these three types of instruments for general use, not necessarily mentioning any others.

As to the anatomy of our working field I will simply mention the bladder. According to Pederson—"The anatomical divisions of the bladder are as follows for the cystoscopist: 1st. Posterior lower quadrant, or ureterotrigonal quadrant, containing the right ureter and its fold, the interureteric fold, the left ureter and its fold, trigonum and posterior half of the neck.

2d. The posterior upper quadrant or the subperitoneal quadrant which lies beyond the ureteric and interureteric folds, frequently called the base or deep fundus.

3d. The anterior upper quadrant or urachal quadrant; also known as the apical zone.

4th. The anterior lower quadrant or retrapubic, which lies immediately behind the symphysis pubes and contains the anterior half of the neck of the bladder.

Some of the conditions frequently diagnosed by the aid of the cystoscope are cases of cystitis—which get their origin from dif-

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ferent sources, as you know, from a stone in the bladder down to the gonococci.

Kidney infections: The kidneys seem to be very susceptible to different varieties of infection.

Brewer states that "all renal infections are hematogenous, including those that come from an infection primary to the bladder." Sweet and Stewart, "after careful anatomic and experimental study have concluded that the lymphatics of the bladder, ureter and kidneys anastomose rather freely, and that they can carry infection from the bladder to the kidneys; that the pelvis and parenchyma of the kidney are often infected by this way from infection in the bladder.

Cabot and others believe that in cases in which there are a great many elements in the urine and few symptoms are lymphatic in origin, while those showing few such elements and marked general symptoms are hematogenous in origin," thus the catheterizing cystoscope is very useful as an aid in diagnosing kidney infections—about one-third of the infections being unilateral, by passing the catheters into the ureters and drawing the urine separately, makes diagnosis sure and practically easy, especially in some cases of renal infection—treatment may be instituted by the way of the catheterizing cystoscope in many cases of infection, if so desired. The usual invading organisms that give rise to kidney disturbances most commonly are: The Colon bacilli, pneumococcus, staphylococcus group, and tubercular bacilli, not mentioning other types less important.

Ureteral stones are oftentimes dislodged and caused to pass down by the aid of the catheter being inserted into the ureter and sterile oil injected. Dr. Furniss, of New York, exhibited several ureteral stones to me that he had removed in this way, thereby saving the patient, possibly, from a fatal operation. All ureteral stones can not be removed in this manner, but a trial does no special harm and gives little discomfort to the sufferer.

The urea output of each kidney, separately, may be determined by the aid of the catheterizing cystoscope. Of course, the importance of this procedure is well known to every physician.

The phenolsulphonephthalein renal functional test, after the method of Rountree and Garaghty, is a very useful test, the functioning power of each kidney may be deter-

mined, which is of great value preceding operations, or when wanted to be known from a medical standpoint. The urea output—and the functional test are both of value and gives you a clear knowledge of just what the kidneys are doing, and to know this you know a great secret which is well worth the time of putting into practice. Also, the indigocarmine test which is valuable in a few instances; for example, if the ureteral orifices were beyond recognition from an inflammatory condition around same and could not be found easily, the indigocarmine, given intravenously, will appear in the ureters in from 3 to 6 minutes, which is very easily seen effusing from the uretero vesical orifices. I have seen uretero-vaginal fistules demonstrated by its use also.

The diagnosis of vesical calculi is made easy by the use of the cystoscope in a very large per cent of such cases. Vesical growths are diagnosed by the aid of the cystoscope, and the same are treated by different methods through the cystoscope.

In conclusion, I will say that the different subjects mentioned were not by any means completely covered, as any one of them alone would make a long paper. The reason for mentioning a number is to show the importance of many conditions which might be overlooked and could not be diagnosed if it were not for the cystoscope. There are many other conditions of vast importance and interesting, too, that I have not touched upon for lack of space.

PRACTICAL CYSTOSCOPY.*

By A. L. Fowler, M.D., Atlanta, Ga.

Cystoscopy has for its object the determination of diseases of the bladder, the prostate and the kidneys.

There are three distinct types of cystoscopes, namely: the direct, whose maneuvers are the most difficult to learn, but when once mastered exceeds the others for ureteral catheter purposes; the indirect or prismatic, which is less satisfactory, but most frequently used—particularly by beginners; and, lastly, the retrograde instruments possessed by not many of us.

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With the direct instrument the ureters may be catheterized, but only the floor and the posterior bladder wall may be seen. With the prismatic, or indirect, instrument, the ureters may be catheterized, but only the dome, the floor and only part of the anterior vesical walls are observed. With the retrograde (non-catheterizing) instrument only the anterior vesical walls and prostate can be seen.

So it stands to reason that if one is going to do serious work in this field he must be equipped with the three types mentioned, else he will naturally overlook some of the most important vesical lesions.

In addition to the instruments named the examiner should possess a cystoscope of exceedingly small caliber designed especially for children and which can also be used in cases of hyper and epispadias.

Yet we know that there are many amongst us pretending to do this serious work with not only a limited experience, but who possess simply a single type of instrument. Hence, is it little wonder that many important lesions of the bladder, the kidneys and the prostate are overlooked?

The prismatic or indirect instrument generally carries catheters (No. 6 F) too small to fill up the ureters—hence there is leakage of urine around and by them into the bladder so that the urinary output from the kidneys is not definitely known. On the other hand, if full sized catheters are used they bind within the instrument so that the instrument can not be removed without withdrawing the catheters along with it.

In the hands of an expert the direct instrument has greatly the advantage and five minutes is all the time ordinarily consumed in placing the cystoscope in the bladder, introducing the catheters into the ureters and to withdraw the instrument and leave the catheters in place.

If the examiner subjects the patient to discomfort longer than this it is generally because he is a novice or neophyte. Doctors, nurses, and others, in the various hospitals tell us of cases being subjected, even sometimes under ether, to prolonged attempts at ureteral catheterization lasting sometimes from an hour to two hours and which is an outrage upon the patient.

If any one believes that a cystoscopist can be produced in a few months, as very truthfully pointed out by Dr. Cabot, of Boston,

he has only to watch for a brief period the work of one equipped with a few months' training, sometimes maneuvering in the bladder for half an hour, or even much longer, to arrive at the conclusion that this is no simple business, and that the inexperienced cystoscopist is more likely to arrive at conclusions dangerous to the patient than to add to the sum of useful knowledge.

Further, it may be pointed out that today the worst menace of urology lies in the failure of the general surgeon to appreciate that years of training are essential to these delicate manipulations, and particularly the ability to distinguish, surely and rapidly, the various manifestations of bladder disease.

Now, there has been an attempt for the longest, particularly where a man has become Hopkinized, to relegate to the rear the old methylene blue test and also that sturdy old urea test for estimating kidney function.

The reason the urea test has fallen slightly into disuse is because, in this country, it is seldom made properly. The patient should be on a salt free diet for three days before the catheters are inserted. Even after the first day there will be a decrease in chlorides and a corresponding increase in urea. If this test, taken in conjunction with the presence of cuboidal epithelia from the convoluted tubules of the kidney, as disclosed by the microscope, is adhered to it will absolutely keep us out of trouble. With this test no one in Europe has ever reported a case of renal failure where the urinary output in the remaining kidney was estimated at 11-2 per cent or over. And this bears out my own experience in every day practice.

These charts I have had done in water colors, at odd times during the past ten years, by Mr. Bemolak, after having viewed with me through the cystoscope some of the various bladder lesions. They illustrate very beautifully and truthfully most of the diseases of the bladder, the kidneys and the prostate.

Suite 926 Candler Bldg.

Dr. Theodore Roan died at Townsend on June 30th. He was 63 years old and a citizen of Waycross.

Dr. W. J. Bell, a prominent Atlanta physician, died suddenly at his home on Peachtree Street on June 17th.

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L. D. Berry.....	Faceville
Thomas Chason.....	Donaldsonville

DEKALB COUNTY.

President—J. F. Pitman.....	Decatur
Sec.-Treas.—T. S. Ussery.....	"
C. E. Patillo.....	Decatur
J. F. Pitman.....	"
W. S. Ansley.....	"
W. T. McCurdy.....	Stone Mountain
C. L. Allgood.....	Scottdale
T. S. Ussery.....	Decatur
A. R. Watkins.....	Chamblee
Mary F. Sweet.....	Decatur
Fred Morris.....	Kirkwood

DOOLY COUNTY.

President—E. B. Davis.....	Byronville
Sec.-Treas.—F. E. Williams.....	Vienna
E. B. Davis.....	Byronville
F. E. Williams.....	Vienna
H. A. Mobley.....	"
V. C. Daves.....	"
T. F. Bivins.....	"
J. L. Lee.....	Pinehurst
V. L. Harris.....	"
W. I. Butler.....	Unadilla
J. O. Teasley.....	Lilly
J. C. Harris.....	"

DOUGLAS COUNTY.

President—	
Sec.-Treas.—	
D. Houseworth.....	Douglasville

DOUGHERTY COUNTY.

President—	
Sec.-Treas.—	
J. A. Garrett.....	Baconton
W. L. Davis.....	Albany
J. M. Barnett.....	"

EFFINGHAM COUNTY.

President—H. R. Tarver.....	Guyton
Sec.-Treas.—R. M. Exley.....	Rincon
W. W. Smith.....	Clyo
H. R. Tarver.....	Guyton
B. P. Powers.....	"
E. W. Griffin.....	Springfield
R. M. Exley.....	Rincon

ELBERT COUNTY.

President—	
Sec.-Treas.—	
W. J. Matthews.....	Elberton
F. L. Adams.....	"
O. B. Walker.....	Bowman
A. S. J. Stovall.....	Elberton
T. H. Gaines.....	R.F.D.2 "

EMANUEL COUNTY.

President—E. A. Chance.....	Garfield
Sec.-Treas.—J. B. Carter.....	Blundale
E. A. Chance.....	Garfield
J. B. Carter.....	Blundale
J. D. Bailey.....	Summertown
L. P. Youmans.....	Swainsboro
T. E. Blackburn.....	"
J. W. Bowie.....	Summit
C. R. Riner.....	"
E. T. Coleman.....	Graymont
J. H. Chandler.....	Swainsboro
G. L. Smith.....	"
M. F. Mosely.....	Oak Park

J. O. Rountree.....	Canoochee
A. C. Johnson.....	Garfield
V. E. Franklin.....	Graymont
R. C. Franklin.....	Swainsboro
L. Lanier.....	Wesley
J. M. Nunez.....	Swainsboro
D. C. LaGrone.....	Summertown
D. D. Smith.....	Stillmore
L. P. Lane.....	"
R. E. Graham.....	"
W. B. Holmes.....	Wadley

FLOYD COUNTY.

President—W. L. Funkhouser.....	Rome
Sec.-Treas.—R. O. Simmons.....	"
J. T. McCall.....	Rome
W. P. Harbin.....	"
R. M. Harbin.....	"
W. L. Funkhouser.....	"
W. J. Shaw.....	"
R. H. Wicker.....	"
Wm. DeLay.....	"
J. L. Garrard.....	"
R. P. Cox.....	"
A. C. Shamblin.....	"
R. O. Simmons.....	"
J. W. Cheney.....	Silver Creek
L. P. Hammond.....	Rome
J. W. Curry.....	"
J. C. Watts.....	"
M. M. McCord.....	"
Geo. B. Smith.....	"
Chas. Hamilton.....	"
R. F. Routledge.....	"
N. C. Doss.....	"
S. R. Methvin.....	Lindale
Clifford Moore.....	Boozeville
J. J. Ross.....	R.F.D. Rome
J. B. S. Holmes.....	"
H. A. Turner.....	"
J. P. Ballenger.....	R.F.D. Armuchee

FRANKLIN COUNTY.

President—S. D. Brown.....	Royston
Sec.-Treas.—B. T. Smith.....	Carnesville
C. B. Lord.....	R.F.D. Ashland
H. M. Birdsong.....	"
S. D. Brown.....	Royston
H. L. McCrary.....	"
J. O. McCrary.....	"
G. T. Ridgeway.....	"
J. R. Brown.....	R.F.D. Martin
W. W. Cornogg.....	Lavonia
W. R. Heller.....	"
G. M. Parker.....	Carnesville
J. R. Hall.....	"
B. T. Smith.....	"

FULTON COUNTY.

President—W. A. Selman.....	Atlanta
Sec.-Treas.—Walpole Brewer.....	"
Louis J. Keeling.....	Atlanta
Charles E. Waites.....	"
A. F. Brawner.....	"
R. G. McAbley.....	"
J. R. Childs.....	"
W. W. Blackman.....	"
H. F. Duffey.....	"
M. K. Jenkins.....	"
H. M. Lokey.....	"
W. N. Adkins.....	"
M. G. Campbell.....	"
Montague L. Boyd.....	"
Leroy Childs.....	"

E. B. Thomas.....	“	W. T. Bivings.....	Atlanta
J. S. Derr.....	“	A. W. Stirling.....	“
E. C. Davis.....	“	C. W. Strickler.....	“
R. R. Daly.....	“	K. E. Foster.....	College Park
J. A. Gentry.....	“	T. C. Davison.....	Atlanta
Phinizy Calhoun.....	“	C. H. Paine.....	“
W. S. Elkin.....	“	B. H. Barr.....	“
E. Bates Bloek.....	“	Robin Adair.....	“
M. T. Davis.....	“	W. S. Goldsmith.....	“
J. L. Campbell.....	“	Sage Hardin.....	“
Geo. M. Niles.....	“	Emery Park.....	“
Jas. B. Baird, Sr.....	“	T. B. Armstrong.....	“
A. P. Flowers.....	“	A. H. VanDyke.....	“
C. G. Giddings.....	“	Jas. J. Martin.....	“
R. B. Ridley.....	“	J. R. Barfield.....	“
N. O. Tribble.....	“	W. M. Powell.....	“
Michael Hoke.....	“	W. F. Westmoreland.....	“
J. E. Paullin.....	“	John C. White.....	“
T. J. Collier.....	“	L. C. Roughlin.....	“
L. C. Fischer.....	“	E. G. Ballenger.....	“
Stewart R. Roberts.....	“	C. E. Murphey.....	“
Floyd McRae.....	“	F. K. Boland.....	“
L. P. Baker.....	“	F. E. Vander Veer.....	“
E. P. Merritt.....	“	W. A. Crowe.....	“
C. A. Rhodes.....	“	J. C. Weaver.....	“
Geo. K. Varden.....	“	J. F. Denton.....	“
T. H. Smith.....	“	C. W. Gould.....	“
W. C. Robinson.....	“	W. A. Upchurch.....	“
E. C. Thrash.....	“	J. D. Thompson.....	“
W. A. Selman.....	“	H. C. Robles.....	“
W. L. Champion.....	“	Perry M. Lewis.....	“
W. C. Warren.....	“	Theo Toepel.....	“
K. L. Reid.....	“	O. B. Bush.....	“
J. Cheston King.....	“	M. B. Hutchins.....	“
Alfred Brown.....	“	W. B. Sharp.....	“
W. A. Gardner.....	“	W. E. Yankee.....	“
C. E. Ware.....	“	W. E. Campbell.....	“
J. O. Kinard.....	“	C. B. Greer.....	“
James N. Brawner.....	“	Anne Sawyer.....	“
R. M. Nelson.....	“	W. B. Emery.....	“
Dunbar Roy.....	“	G. Selby.....	“
Thomas H. Hancock.....	“	G. P. Huguley.....	“
Allen H. Bunce.....	“	G. C. Mizell.....	“
L. B. Clarke.....	“	E. J. Spratling.....	“
Charles E. Boynton.....	“	A. L. Fowler.....	“
J. S. Hurt.....	“	M. T. Benson.....	“
L. M. Gaines.....	“	W. F. Wells.....	“
W. F. Shallenberger.....	“	J. C. McDougal.....	“
L. P. Stephens.....	“	F. G. Hodgson.....	“
John Wallace.....	“	C. M. Remsen.....	“
John H. Vermilye.....	“	C. P. Ward.....	“
John Funke.....	“	H. R. Donaldson.....	“
Chas. M. Mashburn.....	“	J. W. Turner.....	“
G. C. Cole.....	“	Fred W. Hames.....	“
A. F. Caldwell.....	“	M. T. Penticost.....	“
C. E. Rushin.....	“	M. W. McClarty.....	“
W. J. Carson.....	“	Will Roberts.....	“
S. T. Barnett.....	“	E. B. Wood.....	“
E. G. Jones.....	“	Murdock Sykes Equen.....	“
Howard Bucknell.....	“	Roy Blosser.....	“
O. H. Matthews.....	“	R. G. Stephens.....	“
H. F. Harris.....	“	Jno. B. Fitts.....	“
G. W. Quillian.....	“	J. A. McAllister.....	“
Cosby Swanson.....	“	Barron Johns.....	“
G. M. Murray.....	“	J. C. Johnson.....	“
H. W. Minor.....	“		
Hal, C. Miller.....	“		
Marion Hull.....	“		
Chas. J. Vaughan.....	“		
J. P. Kennedy.....	“		
Cecil Stockard.....	“		
W. T. Brown.....	“		
Jas. B. Baird, Jr.....	“		
H. L. Reynolds.....	“		
Chas. E. Dowman.....	“		
W. P. Nicholson.....	“		
C. A. Smith.....	“		

GLYNN COUNTY.

President—	
Sec.-Treas.—	
J. W. Simmons.....	Brunswick

GORDON COUNTY.

President—W. R. Barnett.....	Sugar Valley
Sec.-Treas.—W. R. Richards.....	Calhoun
W. R. Barnett.....	Sugar Valley
C. F. McLain.....	Calhoun

M. A. Acree.....	R.F.D.1	Calhoun
A. L. Horton.....		Ranger
G. W. Mills.....		Calhoun
R. L. Rogers.....		Fairmount
E. O. Shellhorse.....		Calhoun
H. L. Erwin.....		Dalton
J. M. Erwin.....		Calhoun
W. R. Richards.....		"
B. W. Fite.....		Resaca
W. B. Floyd.....	R.F.D.2	Rome
B. W. Penn.....		Plainville
D. J. Borders—Red Bud.....	R.F.D.	Calhoun

GRADY COUNTY.

President—		
Sec. Treas.—W. A. Walker.....		Cairo
C. H. Maxwell.....		Calvary
J. T. Arline.....		Cairo
J. A. Lindsey.....		"
J. B. Warnell.....		"
W. A. Walker.....		"
L. E. Brawner.....		Whigham

GREENE COUNTY.

President—		
Sec. Treas.—		
H. C. Foster.....		Union Point
Goodwin Gheesling.....		Greensboro
J. H. Gheesling.....		"
J. C. Asbury.....		"
E. G. Adams.....		"
F. A. Neergaard.....		White Plains

GWINNETT COUNTY.

President—C. A. Kelley.....		Lilburn
Sec. Treas.—D. C. Kelley.....		Lawrenceville
D. C. Kelley.....		Lawrenceville
G. S. Kelley.....		"
C. A. Kelley.....		Lilburn
N. J. Guthrie.....		Norcross
P. O. Mauldin.....		"
H. T. Dickens.....		Lilburn
W. W. Power.....		Buford
W. T. Hinton.....		Dacula
C. O. Simpson.....		Norcross
B. V. Wilson.....		Dacula
O. D. Hall.....		Buford
Chalmers Hinton.....		Lawrenceville

HABERSHAM COUNTY.

President—T. H. Brabson.....		Cornelia
Sec. Treas.—W. V. Chandler.....		Baldwin
W. V. Chandler.....		Baldwin
P. Y. Duckett.....		Cornelia
J. B. Jackson.....		Clarksville
J. K. Burns.....		"
R. B. Lamb.....		Demorest
E. H. Lamb.....		"
T. H. Brabson.....		Cornelia

HALL COUNTY.

President—		
Sec. Treas.—C. D. Welchel.....		Gainesville
P. E. B. Robertson.....		Gainesville
Giles Hathcock.....		Lula
J. H. Downey.....		Gainesville
E. T. Gibbs.....		"
J. D. Mauldin.....		New Holland
J. B. Rudolph.....		Gainesville
H. L. Rudolph.....		"
J. H. McClure.....		"
A. D. White.....		"
C. D. Wheelchel.....		"
W. B. Lockhart.....		Clermont

HANCOCK COUNTY.

President—W. M. Scott.....		Deveraux
Sec. Treas.—Richard Binion.....		Sparta
W. M. Scott.....		Deveraux
C. S. Jernigan.....		Sparta
Richard Binion.....		"
J. A. Brown.....		"
Horace Darden.....		"
R. C. Wiley.....		"
E. H. Hutchins.....		Linton

HARALSON COUNTY.

President—J. F. Reid.....		Buchanan
Sec. Treas.—C. W. Downey.....		Tallapoosa
J. F. Reid.....		Buchanan
E. B. Hutcheson.....		"
J. W. Newman.....	R.F.D.3	"
W. B. Brock.....		Tallapoosa
A. B. Cole.....		"
T. J. Johns.....		"
W. H. Malone.....		"
E. L. Gilmore.....		"
C. W. Downey.....		"
Aaron Godwin.....	R.F.D.2	Muscadine, Ala.
W. L. Hogue.....		Draketown
J. T. Cobb.....		Felton
B. F. Eaves.....		Draketown
E. F. Sanford.....		Bremen

HART COUNTY.

President—B. C. Teasley.....		Hartwell
Sec. Treas.—W. E. McCurry.....		"
B. C. Teasley.....		Hartwell
J. I. Jenkins.....	R.F.D.	Bowman
D. J. Barton.....		Hartwell
G. T. Harper.....	R.F.D.	Elberton
A. P. Hanie.....		Hartwell
J. C. Jenkins.....		"
W. E. McCurry.....		"
Geo. S. Clark.....		"
H. F. Shields.....		Bowersville

HENRY COUNTY.

President—		
Sec. Treas.		
J. A. Combs.....		Locust Grove
R. L. Tye.....		McDonough

HOUSTON COUNTY.

W. S. White.....		Fort Valley
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IRWIN COUNTY.

President—		
Sec. Treas.—G. W. Willis.....		Ocilla
W. J. Dismuke.....		Ocilla
J. C. Luke.....		"
S. L. McElroy.....		"
G. W. Willis.....		Ocilla
A. Harper.....		Wray
J. J. Luke.....		Ocilla

JACKSON COUNTY.

President—C. O. Brock.....		Jefferson
Sec. Treas.—J. C. Bennett.....		"
R. P. Stinchcomb.....		Pendergrass
J. C. Verner.....		Commerce
L. J. Sharp.....		"
O. E. Shankle.....		"
L. Sanders.....		"
M. F. Nelms.....		"
J. B. Pendergrass.....		Jefferson
C. L. Pennington.....		"
E. M. McDonald.....		"
W. C. Kennedy.....		Talmo

F. M. Hubbard.....	Commerce
W. B. Hardman.....	"
L. G. Hardman.....	"
D. M. Carter.....	"
C. O. Brock.....	Jefferson
J. C. Bennett.....	"
L. C. Allen.....	Hoschton

JASPER COUNTY.

President—	
Sec.-Treas.—L. Y. Pittard.....	Monticello
C. L. Ridley.....	Hillsboro
L. M. Ellis.....	R.F.D. Monticello
F. S. Belcher.....	"
L. Y. Pittard.....	"

JENKINS COUNTY.

President—L. J. Belt.....	Millen
Sec.-Treas.—Q. A. Mulkey.....	"
L. J. Belt.....	Millen
R. Y. Lane.....	"
L. J. Kirkendol.....	"
C. Thompson.....	"
Q. A. Mulkey.....	"
M. S. Perkins.....	"
R. L. Mays.....	"

JOHNSON COUNTY.

President—J. W. Brinson.....	Wrightsville
Sec.-Treas.—S. M. Johnson.....	"
J. W. Brinson.....	Wrightsville
S. M. Johnson.....	"
J. A. Meeks.....	Kite
P. B. Beddingfield.....	R.F.D. Wrightsville
R. E. Brinson.....	"
D. C. Harrison.....	Kite
M. D. L. Peacock.....	"
J. G. Brantley.....	Wrightsville

JONES COUNTY.

President—J. H. Riley.....	Haddock
Sec.-Treas.—P. R. Chambliss.....	Gray, Ga.
J. H. Riley.....	Haddock
J. D. Zachory.....	Bradley
B. L. White.....	Round Oak
P. R. Chambliss.....	Gray

LAURENS COUNTY.

President—R. J. Chappell.....	Dudley
Sec.-Treas.—J. H. Moore.....	Dublin
J. S. Walker.....	Dublin
E. B. Claxton.....	"
R. J. Chappell.....	Dudley
J. E. New.....	Dexter
J. H. Moore.....	Dublin
W. R. Brigham.....	"
J. J. Barton.....	"
J. L. Weddington.....	"
W. F. Massie.....	Chester
A. T. Coleman.....	Cadwell
W. C. Thompson.....	Dublin
W. E. Williams.....	Rockledge

LINCOLN COUNTY.

President—	
Sec.-Treas.—	
W. B. Crawford.....	Lincolnton

LOWNDES COUNTY.

President—	
Sec.-Treas.—J. A. Thomas.....	Valdosta
J. M. Smith.....	Valdosta
A. G. Little.....	"
T. E. Pennington.....	Naylor

G. O. Allen.....	Fargo
J. P. Prescott.....	Lake Park
Geo. Lang.....	Valdosta
E. P. Rose.....	"
J. A. Thomas.....	"
A. Griffin.....	"
E. P. Quillian.....	Clyattville
Frank Bird.....	Valdosta
J. F. Mixson.....	"
D. W. Freeman.....	"

MACON COUNTY.

President—	
Sec.-Treas.—	
C. H. Richardson.....	Montezuma
Chas. A. Greer.....	Oglethorpe

MADISON COUNTY.

President—G. W. Westbrook.....	Ila
Sec.-Treas.—J. L. Baker.....	Carlton
G. W. Westbrook.....	Ila
R. J. Westbrook.....	"
W. D. Gholston.....	Danielsville
W. R. McCoy.....	"
L. E. Roper.....	Comer
J. L. Baker.....	Carlton
Dewitt Payne.....	R.F.D. Danielsville
S. B. Little.....	Colbert
C. C. Wheelchel.....	Comer

MARION COUNTY.

President—	
Sec.-Treas.—A. H. Drane.....	Buena Vista
W. A. Drane.....	Buena Vista
R. L. McMichael.....	"
R. S. O'Neal.....	"
A. H. Drane.....	"
B. T. Rainey.....	"
J. L. Morris.....	Tazewell
J. M. Cook.....	Charing

MERIWETHER COUNTY.

President—	
Sec.-Treas.—F. P. Norman.....	Greenville
F. P. Norman.....	Greenville
J. A. Thrash.....	"
J. W. Pingston.....	"
R. B. Gilbert.....	"
E. B. Terrell.....	"

MITCHELL COUNTY.

C. A. Stevenson.....	Camilla
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MONTGOMERY COUNTY.

President—J. C. Collins.....	Uvalda
Sec.-Treas.—J. E. Hunt.....	Mt. Vernon
J. C. Collins.....	Uvalda
R. H. Mobley.....	"
J. W. Palmer.....	Ailey
J. E. Hunt.....	Mt. Vernon

MONROE COUNTY.

President—	
Sec.-Treas.—	
J. O. Elrod.....	Forsyth
R. C. Goolsby.....	"
G. L. Alexander.....	"

MUSCOGEE COUNTY.

President—J. M. Baird.....	Columbus
Sec.-Treas.—C. A. Dexter.....	"
B. W. Allen.....	Columbus
J. M. Anderson.....	"
J. M. Baird.....	"
E. L. Baker.....	"

W. H. Campbell.....	Columbus
W. L. Cook.....	"
J. M. Crook.....	"
J. I. Darby.....	"
W. L. Des Portes.....	"
C. A. Dexter.....	"
W. T. Gautier.....	"
B. B. Jemison.....	"
J. T. Johnson.....	"
R. F. Johnson.....	"
T. E. Mitchell.....	"
Alice Moses.....	"
H. S. Munroe.....	"
J. H. McDuffie.....	"
C. A. Peacock.....	"
P. A. Tatum.....	"
J. C. Woolridge.....	"
J. R. Youmans.....	"
S. E. Young.....	"
Neal Kitchens.....	Bullochville
W. F. Gann.....	Columbus
J. T. Monerief.....	"
W. L. Bullard.....	"
A. N. Dykes.....	"
M. H. Blandford.....	"
Ralph Williams.....	"
W. N. Carter.....	"
M. F. Pennington.....	"
W. W. Stewart.....	"

McDUFFIE COUNTY.

President—S. Gibson.....	Thomson
Sec. Treas.—B. F. Riley, J.....	"
S. Gibson.....	Thomson
A. J. Matthews.....	"
B. F. Riley, Jr.....	"
D. A. Rogers.....	Dearing
Z. M. Story.....	Winfield
J. R. Sams.....	Dearing

NEWTON COUNTY.

President—S. W. Everett.....	Almon
Sec. Treas.—J. H. Randle.....	Porterdale
J. W. Payne.....	R.F.D. Covington
H. C. Ellis.....	R.F.D. McDonough
S. W. Everett.....	Almon
John H. Randle.....	Porterdale
N. Z. Anderson.....	Covington
T. S. Hollyman.....	"
J. C. Loveless.....	Porterdale
W. D. Travis.....	Covington

OCONEE COUNTY.

President—	
Sec. Treas.—	
James T. Elder.....	Farmington
W. M. White.....	Watkinsville
E. H. Kennimer.....	Bishop

OCMULGEE MEDICAL SOCIETY.

President—A. A. Smith.....	Hawkinsville
Sec. Treas.—F. H. Herrman.....	Eastman
B. M. Kennon.....	McRae
H. S. Maloy.....	Milan
A. L. Wilkins.....	Eastman
J. C. Wall.....	"
W. A. Matthews.....	Hawkinsville
J. F. Powell.....	Greston
R. G. Stone.....	Hawkinsville
J. L. Mathews.....	"
E. C. Brown.....	"
J. J. Stone.....	"
J. D. Herrman.....	Eastman
F. H. Herrman.....	"
J. B. Clark.....	"

A. A. Smith.....	Hawkinsville
J. K. Maloy.....	Milan
J. W. Neal.....	Scotland
W. H. Pirkle.....	Cochran
R. L. Whipple.....	"
E. L. Smith.....	Plainfield

PAULDING COUNTY.

President—	
Sec. Treas.—J. I. Matthews.....	Dallas
W. O. Hitchcock.....	Dallas
W. H. Beall.....	R.F.D.5 "
J. I. Matthews.....	"
E. W. Dean.....	Hiram
Geo. W. Ragsdale.....	"

PIKE COUNTY.

President—M. M. Head.....	Zebulon
Sec. Treas.—J. M. Anderson.....	Barnesville
M. M. Head.....	Zebulon
J. M. Anderson.....	Barnesville
I. B. Howard.....	Williamson
J. M. Rogers.....	Barnesville
C. E. Suggs.....	"
J. R. Graves.....	Zebulon
R. A. Mallory.....	Concord
J. C. Beauchamp.....	Williamson
W. L. Beauchamp.....	"
C. H. Willis.....	Barnesville
J. H. Grubbs.....	Molena
J. A. Corry.....	Barnesville
J. M. F. Barron.....	Milner
C. A. Harris.....	The Rock

POLK COUNTY.

President—S. L. Whitely.....	Cedartown
Sec. Treas.—M. S. Richardson.....	"
W. A. Chapman.....	Cedartown
H. M. Hall.....	"
J. J. Cooper.....	"
C. W. Peek.....	R.F.D. "
C. Y. Wood.....	"
S. L. Whitely.....	"
W. G. England.....	"
W. W. Tison.....	"
J. E. Pennington.....	Esom Hill
M. S. Richardson.....	Cedartown
T. E. McBryde.....	Rockmart

PUTNAM COUNTY.

President—V. H. Taliaferro.....	Eatonton
Sec. Treas.—S. A. Clark.....	"
S. A. Clark.....	Eatonton
E. F. Griffith.....	"
V. H. Taliaferro.....	"
J. D. Weaver.....	"
E. Y. Walker.....	Willard

RALDOPH COUNTY.

President—F. M. Martin.....	Shellman
Sec. Treas.—G. Y. Moore.....	Cuthbert
T. F. Harper.....	Coleman
F. S. Rogers.....	"
E. C. McCurdy.....	Shellman
F. M. Martin.....	"
W. W. Crook.....	Cuthbert
W. W. Binion.....	"
F. D. Patterson.....	"
G. Y. Moore.....	"
A. F. Weathers.....	Shellman
A. L. Crittenden.....	"
T. R. Andrews.....	Cuthbert
J. B. Tanner.....	Benevolence

RICHMOND COUNTY.

President—Asbury Hull.....	Augusta
Sec. Treas.—H. W. Shaw.....	"
G. T. Bernard.....	Augusta
C. I. Bryans.....	"
J. F. Burdshaw.....	"
C. W. Crane.....	"
W. D. Cutter.....	"
P. P. Comey.....	"
W. J. Cranston.....	"
A. A. Davidson.....	"
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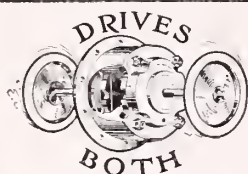
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AUGUSTA, GA., SEPTEMBER, 1916.

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By Edgar G. Ballenger, M.D., F.A.C.S., and
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Chancre, Initial Sore, Hard Chancre, or Primary Lesion, is the lesion which develops at the sight of infection in acquired syphilis, the spirochaeta pallida is the cause and about three weeks is the time required after the infection for them to produce the chancre. Until recent years the infecting organism had not been identified in spite of the scientific observations and studies of many bacteriologists and syphilographers. The spirochaeta pallida was discovered by Schaudinn and Hoffmann in March, 1905, while searching for the cytorrhietes flagellates which Seigel believed to be the cause of syphilis. Of the many organisms alleged to be the cause of syphilis none stood the tests of subsequent independent investigators except the spirochaeta pallida. Within a few months after Schaudinn and Hoffmann made their report

*Read at meeting of Medical Association of Georgia, Columbus, Ga., 1916.

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others in many parts of the world began the confirmation of their claims that this spirochete was found only in syphilis. In this early work probably the most conclusive evidence was the demonstration of the spirochetes in the liver, spleen, lungs, etc., of the syphilitic foetus as secondary and accidental infection was here manifestly impossible. Later the inoculation of anthropoid apes by Mechnikoff and the demonstration of the spirochaeta pallida by other investigators in nearly every lesion of syphilis, even in the brain of paretics have fully identified this organism as the cause of syphilis.

There are many other varieties of spirochetes; among the most frequently encountered may be mentioned the spirochaeta refringens, which is often found in ulcers on the genitals and elsewhere; the spirochaeta microdentium, found around the margins of the gums in patients with foul mouths; this spirochete is morphologically identical with the spirochaeta pallida and can not be differentiated when the smear is taken from the mouth or throat. Noguchi has shown that this spirochete produces a disagreeable odor in cultures, while the spirochaeta pal-

pallida does not cause an odor. The spirochaeta macrodentium is also found in foul mouths, but is larger and by its size can be differentiated from the *pallida*. The spirochaeta pertenuis is nearly exactly like the spirochaeta *pallida*, and is the cause of framboesia.

The spirochaeta *pallida*, or more correctly the treponema *pallida*, is a very slender, faintly refractile, spiral-shaped, actively motile micro-organism, which varies in length from 10 to 15 micro-millimeters and is about a half micro-millimeter in thickness. It has 10 to 15 turns, the curves of which are uniform except at the ends where they become smaller and pointed. It apparently belongs to the vegetable organisms; Schaudinn thought that he sometimes found a flagellum at one or both ends. It differs in this respect from certain other varieties of spirochetes which have an undulating membrane. The spirochaeta *refringens* is larger, has wider curves, blunt ends and stains deeply. The method of multiplication of spirochetes is not definitely known; the consensus of opinion is that they subdivide longitudinally.

Chancre—Three weeks after infection with the spirochaeta *pallida* a small papule develops and usually ulcerates. There is very little soreness and inflammatory reaction, compared with chancreoid, consequently the primary lesion is often overlooked. It is in this early chancre in which the spirochetes are most easily demonstrated. At a later date, after local treatment has been instituted or when the lesion has been secondarily infected, it is often more difficult or impossible to find the spirochaeta *pallida*. Often, too, the sore may have healed before the patient comes for diagnosis.

The initial lesion of syphilis presents characteristics distinctly chronic as opposed to acute inflammatory reaction. The sluggish reaction of the cells concerned is manifested by proliferation of the endothelial and connective tissue elements instead of an increase of polynuclear leucocytes as seen in pyogenic infections. The primary seat of inoculation becomes occupied by a granulomatous growth which contains in addition to proliferated fixed tissue cells an abundance of plasma cells, the origin of which is not yet certain. These plasma cells are similar to, though different, from lymphocytes. The latter remain in the round cell stage, while the plasma cells possess the power of transformation into

spindle cells. The local response to infection with spirochaeta *pallida* is chiefly a proliferation of fixed tissue cells or of cells capable of development into permanent tissue. When picked up between the fingers this induration often gives one the sensation of cartilaginous hardness in or under the skin. The long incubation period seems to be due to the fact that the manifestations are those of a reaction and growth of fixed tissues.

At first the chancre is essentially a cutaneous tissue and local lymphatics. The induration which is usually so characteristic of chancre is not infrequently atypical or is overlooked in extra-genital lesions.

Seat and Character of Infection With the Spirochaeta Pallida—The primary seat of inoculation in acquired syphilis is almost invariably a surface covered by squamous epithelium. Apes and monkeys can be inoculated with the spirochaeta *pallida* only in the scarified epidermis. This, of course, is very strange, as later the organisms thrive in so many of the bodily tissues. In all of the numerous experiments of Neisser and his co-workers, the rubbing of spirochetes into the undamaged surface of the tonsil, conjunctive and nasal mucous membrane produced no lesion. Fifty-one subcutaneous inoculations were tried and every one failed to produce a chancre, though many of the animals later became cachectic and died. Equally futile were intravenous inoculations, which they tried fifteen times. None of these inoculations produced recognizable syphilis. The lower animals can not be infected except on the injured genitals and eyebrows. The applications of calomel ointment was shown by Metchnikoff to destroy the spirochetes and prevent the development of syphilis. We know, too, that the application of this ointment or powdered calomel to a chancre which contains many spirochetes will cause their immediate superficial disappearance. This fact should always be remembered when making a search for these organisms.

Pathology—A marked feature of a chancre is its vascularity. Ehrmann has shown that one of the earliest stages of the lesion is a development of an abundant new formation of capillary blood vessels. This is a striking contrast to tubercle in which no such new development of blood vessels ever occurs. In addition to the formation of new blood vessels there are always perivascular and endovascular infiltrations. This is also true of

the lymphatic vessels. The columns of thickening which extend from the main mass into the surrounding tissue tend to follow the blood vessels and lymphatics. The general impression given by a section from a primary sore is that of a dense granulating tissue. This shows clearly the importance of submerging the chancre in hot water several hours a day for several days after each injection of salvarsen so as to dilate the blood vessels and bring to the chancre the greatest possible amount of blood laden with the spirochetocide. We have found that the lesions healed much more rapidly and the induration softened much more quickly than when we depended alone upon the intravenous injections. The heat itself is also of undoubted value. Unless secondarily infected a chancre usually leaves very little scarring. The erosion and ulceration usually seen is due to secondary infection. When first observed a chancre generally presents itself as a superficial erosion. It gradually extends in circumference and depth, and in the course of a few days is surrounded by a well marked area of induration. It is a deep red color and exudes a thin sanious fluid. It is in such lesions that the *spirochaeta pallida* is most readily demonstrated. When ulceration exists the edges are sloping, not undermined as in chaneroid, and give it a saucer-like depression. There is usually itching, but very little pain. The induration may assume many shapes and forms, but always retains its characteristic peculiar non-inflammatory hardness beneath and around the sore. The hardness produced by inflammation is neither defined nor circumscribed. The induration of a chancre usually remains for a time after the lesion has healed. The so-called chancre redux or recurring chancre appears to be nothing more or less than a gumma, which has developed at the site of the original chancre. The organisms lie dormant, perhaps, for many years, and finally produce a gumma. The lesion looks like a typical chancre, but contains very few spirochetes and breaks down much more rapidly and extensively than does a chancre, thus adding further evidence as to their nature, for we are all familiar with the tendency of gummata to undergo rapid destructive changes. Close on the heels of the chancre and almost as significant as the induration is the idolent bubo, characterized by its non-inflammatory changes. There may be a

chain of small glands with only slight enlargement, though usually one or two glands are more enlarged than the others.

Classification—A chancre is usually single or multiple within 10 days, and may be usually easily classified as an erosion, indurated papule or ulceration. It will not be necessary to discuss the various kinds of chancres which are found in different localities and under the many varying circumstances and complicated by secondary infections of many kinds, such as ordinary pyogenic organisms, chaneroid infection, and cauterization, or medication. The one important thing to remember is that any sore may be infected with *spirochaeta pallida* and because it is a typical chaneroid or herpes or other lesion we should not lose sight of the possibility of double infection with the dominant characteristics due for the moment to the secondary infection while the slow working spirochetes are mobilizing and making ready for their treacherous invasion.

Patients often mislead us by their own ideas as to how it happened that the sore came, and that they are sure it is due to some innocent chafing or equally innocent injury. The only safe way is to assume that every genital sore may be a primary lesion, either actually or in embryo, and search patiently and persistently until the spirochetes are found or their absence is reasonably sure.

Technic of Finding the *Spirochaeta Pallida*

—Since this organism is very slender and stains very poorly, much difficulty may be encountered in demonstrating it until one has become familiar with the technic of obtaining the smears and has clearly in mind the appearance of the organism. By far the most satisfactory method is by the dark field illumination. In fact, the staining and India ink methods are so unreliable that we will not take your time by discussing them and will only give the technic for dark field specimens. The chancre should be cleansed with tepid water and then well squeezed; the first secretion and blood are wiped away. We then wait for about three to five minutes for more secretion to ooze from the lesion. This is placed on a clean slide and is immediately covered with a cover glass and sealed under with melted paraffin applied with a small cotton mop. The *spirochaeta pallida* now appears, when seen in the dark field, as a silvery curly streak or rows of dots, ac-

tively motile, but not passing rapidly across the field as do some varieties of spirochetes. The curves are uniform and fine. The organism is so distinctive that when we find them in a genital lesion, no matter how small, we make a positive diagnosis of syphilis. This can not be said of lesions in the mouth or throat.

Prognosis—So much more certain are the results of treatment given early than later when the organisms have been spread and perhaps intrenched in the nervous system that it should be considered criminal negligence to delay the diagnosis until such widespread invasions have occurred. Clinical experience leads us to believe that the spirochetes spread through the system about three weeks after the sore appears and that about three weeks more is required for them to produce the secondary lesions. Every effort should be made, therefore, to start treatment with salvarsan during the first three weeks. If this can not be done, the treatment should be started before the secondary manifestations develop. In the pre-salvarsan days this was a matter of slight importance because even with an early start we could not prevent the widespread invasion of the spirochetes. It is fortunately all different now, and if we can begin an intensive course of treatment before the third week we can promise with almost certainty that further evidences of the disease will not appear. This is not true of syphilis after the third week. We are, therefore, under the most urgent obligations to make an early and correct diagnosis. Otherwise our neglect may produce tragic consequences for which we can not hold ourselves blameless. So many tragedies come from carelessness in diagnosis, and so numerous are the innocent infections that we feel very keenly the importance of laying great stress upon early and accurate diagnosis of all genital sores, especially innocent clean-looking ones, for it is with these that the patient will take a chance and perhaps have sexual intercourse, while the surgeon is likely to minimize the significance of the lesion until he demonstrates the presence of the spirochaeta pallida. Carelessness and indifference are to blame for nine-tenths of our mistakes, for in the majority of instances there is a possible incubation period of three weeks, an indurated sore resembling chancre, non-inflammatory glandular enlargement, and the demonstrable spirochaeta pal-

lida. **Regardless of the character or its size every genital lesion should be considered luetic until negative search for spirochetes, the clinical history, and subsequent time tests disprove such a possibility.**

Treatment—The treatment of chancres is comparatively simple and efficacious. They usually heal promptly unless chancreoid infection is also present or unless the lesion is under a foreskin that can not be retracted in which case, cleansing irrigations and argyrol or argentide injections hasten the healing by controlling the infection other than spirochetes. Adequate doses of salvarsan, supplemented with intramuscular injections of the salicylate of mercury once a week will cause a rapid healing of the chancre. The induration softens more rapidly if the patient immerses the penis in hot water for two to four hours a day for the first few days after the injections of salvarsan. The reasons for this have been previously stated. The glandular enlargement disappears more rapidly also if hot applications are made several hours daily over the glands in the inguinal region. A powder may be employed on the chancre if desired. Equal quantities of calomel bismuth subnitrate and stearate of zinc make a good application which seems to control the secondary pyogenic infection. Constant wet dressings with a 5 per cent solution of argyrol is one of the most efficacious treatments for lesions in which chancreoid infection exists.

805 Healey Bldg.

SO-CALLED TERTIARY SYPHILIS.*

By **W. L. Champion, M.D., F.A.C.S., Atlanta, Ga. Genito-Urinary Surgeon, Grady (City) Hospital, Wesley Memorial, and Scottish Rite Hospitals.**

Syphilis has been arbitrarily divided into three stages. This division was made years ago when syphilis was not understood as it is today. We were taught not to call a chancre a chancre until there was present the macular eruption or glandular enlargements. All sores on the genitals were treated as local sores until we had secondary evidences proving a syphilitic infection. This was prob-

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ably the best course to pursue with the light before us, so as not to subject patients with chaneroids to two or three years' treatment for syphilis. But we realize now that this six weeks of waiting was extremely harmful and the patient more likely to develop tertiary syphilis.

From the literature we read we are too often impressed with the statement that tertiary syphilis develops during the second or third year of the disease, when in fact it may be in evidence any time after the general infection or syphilitic septiceemia; which is six weeks after the appearance of the chancre. I have seen cerebral syphilis develop three months after the appearance of the initial lesion, and I am quite sure if we will study our records there will be quite a percentage of cases showing involvement of the nervous system, six, eight and twelve months from the inception of the infection; therefore, it is well to bear in mind that tertiary syphilis may develop any time after the secondary manifestation of the disease, and may be delayed as late as twenty or thirty days. I think the time usually placed as two or three years for the development of tertiary syphilis is intended to apply to the tertiary skin lesions. The resistance in the body to the various death-dealing organisms is responsible for the recovery from diseases. This resistance delays the progress or destructive march of the spirochaetae and gives us the stages or periods of syphilis. When the poison is implanted in the tissues it is eight to nine weeks before there is a general invasion of the circulation or a syphilitic septiceemia. As soon as this outbreak occurs, the so-called tertiary lesions that are so marked later on are in the stage of formation or actually in evidence if we only had the powerful microscopic view of the tissues being invaded. So, in fact, after the chancre has existed for six weeks the general septiceemia that immediately follows, immerses into the so-called tertiary stage, if we call the involvement of the internal organs, blood vessels and nervous system tertiarism.

The most regular thing about syphilis is its irregularity. Therefore, it would be impossible to make a clinical picture to apply to all cases, as no two are alike.

Can you recall any other disease that can be classed as a competitor to syphilis when it comes to making its attack upon the human organism? It not only expends its force

upon the skin, the internal organs, the bones and nervous system, but brings into its fold the teeth, nails and hair. The question naturally arises as to the frequency of tertiary lesions. What percentage of individuals infected with syphilis escape tertiarism? This question can not be answered, as it is impossible to follow up all cases.

But without present knowledge of the disease we can not help but realize the percentage is very high. "It is the tertiary syphilis that is dangerous to the individual." "It is the individual with a chancre or mucous patch that is a danger to society, but the horrible picture that confronts this individual is tertiary syphilis, that he knows so little about, and cares less when he is free of the primary and secondary manifestations.

"To define tertiary syphilis, we should say those lesions which are destructive to tissue, and show no tendency to heal without treatment." "These lesions are gummatous in character." "The subcutaneous gumma is a deep-seated syphilitic tubercle, in the beginning it is a localized perivascular granuloma, its center soon breaks down into a gelatinous or gummy mass (hence the name gumma); this mass breaks through the skin and makes an ulcer. When the internal organs are involved this mass becomes encysted and surrounded by fibrous tissue." "When healing takes place there is left scar tissue. When the arteries are attacked they become infiltrated, hard, and the small ones are obliterated. There may be rupture of the vessel or an aneurism may form."

In secondary syphilis the superficial layers of the skin, and mucous surfaces are involved. In the tertiary stage the whole thickness of the skin and mucous surfaces are involved. Secondary skin lesions are usually symmetrically placed; when found on one arm they will usually be found on the other. The tertiary lesions, as stated before, are irregularly placed.

It is noticeable how often relapses occur in tertiary syphilis. Take a tubercular syphilide of the leg; the patient is given a thorough course of treatment and in a few months there is a return of the trouble. This is due to insufficient treatment.

I have a patient under my care at present who has a gummatous-osteo-periostitis of the right parietal and frontal bones. His scalp is in a very ugly condition. His head is unsightly from the large number of nodules,

and the ulcers produced by the breaking down of the tubercles. This patient has had syphilis eight years. He will leave off treatment as soon as all local manifestations of the disease appear.

While syphilis is a chronic disease, this term is more applicable to the tertiary stage. In malignant syphilis we may see syphilides of the skin that are very rapid in their destructive process, but as a rule they are slow and can be controlled by treatment. To read the average text-book it does not give the proper data as to the frequency of the various systems attacked and the percentage. But Fournier, in his book on the Treatment and Prophylaxis of Syphilis, gives his personal observation of 4,400 patients which should be of interest.

Nature of Tertiary Lesions.

Tertiary syphilides.....	1,451
Subcutaneous gummata.....	204
Genital organs.....	271
Tongue	262
Palate	215
Pharynx	94
Lips	42
Tonsils	12
Throat	11
Nasal fossae.....	5
Bones	519
Bones of nose and palate.....	229
Arthropathies	22
Gummata of tendons.....	3
Gummata of muscles.....	16
Oesophagus and rectum.....	8
Ano-rectal lesions.....	13
Larynx and trachea.....	32
Lung	23
Heart	6
Aorta	13
Liver	9
Kidney	31
Testicles	245
Eye	110
Ear	24
Arteries	3
Brain	758
Cerebro-spinal lesions.....	29
Monoplegias	6
Spinal cord.....	135

Tabes	631
Cerebro-spinal tabes.....	45
Neuritis and muscular atrophy.....	24
General paralysis.....	83
Ocular paralysis.....	110
Facial hemiplegia.....	23
Divers nervous affections.....	13
Other localizations.....	19
	<hr/> 5,749

The above figures demonstrate the seriousness of tertiary syphilis. Of this 4,400 patients 1,451 had tertiary syphilides. Next comes the involvement of the brain, 758. Tabes, 631. Spinal cord, 135, which added together and classed as involvement of the nervous system will make a total of 1,524, which is greater than the number of cases where the skin was the site of the tertiary lesion. The number of cases with bone lesions is 748. So we see from the above figures, what bearing syphilis has to the nervous system, how the specialist in every line of medicine and surgery should necessarily be alert as to the bearing syphilis may have upon any and all conditions he is called upon to treat.

Since the recent advancements in the diagnosis and treatment of syphilis it is not a rare thing to see articles published and cases reported of syphilis of the heart, lungs, aorta, and gastro-intestinal tract. In fact, at the present time, the diagnosis and treatment of syphilis is being rewritten. While the above figures of tertiary syphilis may be startling to some, another picture unfolds itself: that is, parasyphilites. The morbid conditions that develop in those individuals who have had syphilis, and still the condition does not show a syphilitic nature, conditions such as general paresis and tabes.

"The tabes that attacks syphilites is identical to that which attacks those who have not had the slightest syphilitic taint." Fournier found in 249 cases of tabes, 231 in which there was undoubted syphilis, that is 93 per cent. And I am sure it would be safe to include the other seven per cent in the syphilitic class.

With the inside facts now at hand, which have been brought to light within the past few years, the treatment of syphilis has been put on a sound and rational basis. So that in the future the number of patients afflicted

with tertiarism should be materially lessened. Our increasing knowledge of syphilis is noticeable. The internist is discovering more syphilitic conditions and not treating the patient symptomatically. The eye, ear, nose and throat specialist is more sure of the causative factor of muscle weakness of the eye; nasal, laryngeal and internal ear lesions. The dermatologist can clear up some of his deep-seated skin lesions by a Wassermann reaction. The gastro-enterologist now recognizes syphilis of the stomach. The rectal specialist can report more cases of syphilis of the lower bowel. The neurologist has broadened his field until now he is a syphilographer. The Wassermann reaction has halted the surgeon in making some exploratory operations, and it is hoped that syphilis will in some way delay the gynecologist. These statements are not made to discredit any line of endeavor, but to draw attention to the advancement that is being made in the management, diagnosis and treatment of a serious malady.

As Fournier has truthfully said, "Syphilis is not a mishap, but a calamity."

While it is not my purpose to take up the treatment of syphilis I desire to state in passing that in a great majority of cases of tertiary syphilis, this stage of the disease would not be in evidence if intensive treatment had been instituted at the outbreak and continued persistently for a sufficient period of time.

I am sure that in the daily practice of our profession, many of us are prone to give too much medicine. We have personal friends who never visit their patients without changing prescription, thereby adding insult to injury.

We all know that most diseased conditions if left alone would respond to Nature's whip. But syphilis is the one disease in which Nature calls for help, and that help given must be strong and persistent to prevent the tertiary stage.

When the patient is told that he has syphilis, the doctor, realizing his mental attitude, will often, I am afraid, ease the patient off with the beautiful picture of how easily, shortly and surely the disease can be cured. When, really, if duty overshadowed sympathy, the patient would get the proper conception of a serious malady.

Taylor—Genito-Urinary and Venereal Diseases.

White & Martin—Genito-Urinary and Venereal Diseases.

Keyes—Diseases of the Genito-Urinary Organs.

Fournier—Treatment and Prophylaxis of Syphilis.

THE PATHOLOGY OF SYPHILIS; A NEWER VIEW.*

Dr. E. C. Thrash, M.D., Atlanta, Georgia.

I.

The phenomena here reported are based largely upon observation made in the laboratory, at autopsies and upon syphilitic individuals.

Since the discovery of the treponema pallida there has been a doubt as to whether it is animal or vegetal, but recent investigations, especially on the part of Noguchi, has settled this question in favor of the latter structure, since he has grown the organism anaerobically, in which growth it forms colonies assuming the appearance of bacteria, produces infection directly, without having to pass through intermediate stages, as do animal parasites, and produces toxemias characteristic of vegetable parasitic infections.

In discussing the mode of entrance of the offending organism the well known post-natal portals will be dismissed as being too trite to require attention, but prenatal leucic infections, from the writer's viewpoint, have been based, by most syphilographers, upon incorrect principles and he will attempt in the onset to outline in a few words the logical way in which syphilis is transmitted from parent to child, based upon biological hypotheses to which he has directed some attention.

Syphilis, from a biological standpoint, is not inherited. Nothing can be inherited except what is transmitted by the parent cell through its biophores to its offspring, and these can be only the various physical, phys-

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iological and psychic attributes contained in the original cell. In other words, one developing entity can not inherit the attributes of a cell from a different species. Were this not true there could be no constancy in life processes. All infections imply the activities of two life forces—the invading parasite and the invaded host, each one inheriting its own characteristics and none of these of the other.

No informed person would claim that an infection could be inherited, yet all will say that syphilis is an inheritable disease. This question was settled as to tuberculosis many years ago, but the same student who states that tuberculosis is not inheritable will say that syphilis is, although it should be clear to any thinker that either both are or neither one is, for if one infection is inheritable all are. Whether the spirochaete attacks the spermatozoid before it reaches the ovule, the ovule before fertilization, the embryo in early uterine life, or the foetus just before parturition, the result would be the same—a prenatal infection and not an inheritance.

The next statement which I shall make is as great a departure from the beaten paths of pathology as the one foregoing, and I shall endeavor to establish its correctness. The male can not transmit syphilis directly to his offspring, and the mother must be the intermediate host. Syphilis develops after the fertilization of the ovule, and, not only after its fertilization, but at a time when it has reached a period of development that puts it far in the lead of its invading enemy so that it may live despite the ravages of this invader. The argument which I shall make to substantiate this statement is as follows: First, any infection to be transmitted directly from the male must enter the ovum with the spermatozoid. The spirochaete is about twice the length of the long and more than three times the length of the short diameter of the body of a spermatozoid. The tail having no procreative power, its sole properties being to propel, and being discarded as the male element enters the ovum, is not to be considered.

After a moment's thought one must conclude that a spermatozoid, wending its way up the vagina into the uterus, and out into the fallopian tube with a spirochaete run through its body would have about the same chance of outstripping its millions of fellows, beating them to the goal and fertilizing the

ovum, as its completed handiwork man would have in competition with his fellows in his efforts to procreate, with a fence rail run through his body, while his opponents were all well, young strong, and vigorous.

Furthermore, it is estimated that eighty billion spermatozoids miss their mark where one consummates the purpose for which it is designed. Granting that there would be one hundred spirochaetes in each discharge of semen, which contains over two hundred millions of spermatozoids, this would give only one chance in two million for the spermatozoid containing the spirochaete to fertilize the ovum though it did not suffer a handicap of a spiral thrust through its body.

The lower down the scale of life one looks the more prodigally wasteful one sees nature in her effort to procreate, but in case the treponoma should be as fortunate as his more highly differentiated brother, the spermatozoid, and hit the mark as often, the above numbers would have to be squared, which would extend the possibility into inconceivable infinity.

Moreover, even should the spirochaete enter the ovum with the spermatozoid the former would begin to develop and multiply as rapidly as the cells of the fertilized ovum, the result of which would be a toxicity and a mechanical disturbance resulting in an inevitable blast.

Let us now consider the course that the spirochaetes apparently take in reaching the foetus. Colle, long since, made the statement that no syphilitic child could infect its mother. It is easy to understand why this is true—the mother is immune, and has become so through having been infected by the father. No doubt, the majority of syphilitic infections, like tuberculosis, are only academic and not clinical. We know that most cases of tuberculosis never reach a degree of activity to make the disease apparent. The patient established an immunity against the germ before he began to suffer in consequence of its invasion. Most syphilitic infections probably terminate similarly, and the mother receives an academic or slight clinical type of the disease against which she soon creates an immunity, yet, as in tuberculosis there are symbiotic relations developed between the invading germ and host in which a truce is established, the germs continuing to live in the mother's tissues, but producing no destructive changes.

Some of the biological traits of the tubercle bacillus and the spirochaete are similar, but they differ in that the latter is motile while the former has no innate power of motion. This characteristic accounts for so many prenatal syphilitic children, and so few that are tubercular. The reason is, that both spirochaetes and tubercle bacilli are carried mechanically by the mother's circulation to the maternal side of the placenta where they land into a lake of blood in which the chorionic villi are floating like rootlets of a madusa. These villi are covered with a loose, soft epithelial structure, the *cintium*, through which all foetal nourishment must pass from the mother's blood and through which the spirochaete, by its rotary motion, can bore with ease, entering directly into the blood vessels of these villi, which are on the foetal side of the placenta, and forms a part of the foetal circulation. Through these villi innumerable spirochaetes find an open gateway into the blood structures of the child, whereas the tubercle bacilli not possessing motility and penetrating power are continuously whipped around in the mother's circulation.

Corroborating the foregoing, all prenatal syphilis is found predominating in the liver, whereas a tubercular foetal liver is almost unknown. This structure, as we know, contains the first capillary circulation which the spirochaetes reach after they get into the foetal blood. They are not able to pass easily through this area, consequently they find lodgment here and set up infection. This phenomenon could not take place until after the formation of the placenta and the establishment of the foetal circulation, and syphilis has been as truly contracted by the child from the mother as if it had developed a chancre upon its lip by nursing at a syphilitic breast. The difference is, one is prenatal, the other postnatal.

II.

From a pathological standpoint, the division of syphilis into the three well known classical stages is incorrect. It should be classified under two heads, the period of local invasion and that of systemic infection. The post-syphilitic stage, where the spirochaetes have either disappeared or become innocuous.

The local invasion is characterized either by the classic chancre, the papule, or the having left their scorch in permanent destructive changes upon the nervous system, might be termed either the third stage or retain

its name of meta or para-syphilis, meta being the more expressive of the two prefixes. cryptic invasion where no local lesion is produced.

The spirochaete has a revolving motility which gives it certain powers of penetration. When it is deposited upon the mucosa or moist surface, should this germ, in its wanderings, find an area where the surface cells are weakened, abraded or sufficiently softened for it to penetrate the tissues are entered an active processes are begun both on the part of the body cells and the germs, the outcome of which is the development of a chancre. The propagating centrally located organisms surrounded by systematically arranged specific somatic cells, constitute a definite histological structure called a *granuloma*. This entity consists histologically of actively virulent organisms at the center, walled in by epithelioid cells developed from the morbid partially poisoned endothelial cells of the adjacent capillaries, migratory lymphoid cells, serous exudate and fibroblasts, the latter being developed from the weakened partially destroyed intoxicated surrounding fibrous tissue structures stimulated to mitosis in their effort to repair an injury. The *granuloma* will be discussed more at length later.

The surface cells in the incipient chancre being furthest removed from the nutritive plasma of the blood, the first to be attacked by the invading germs, and being separated from the underlying cells by serous exudate are the first to succumb to the ravages of the enemy. This causes in the beginning a slightly abraded area which is already becoming indurated. The destructive changes begin at the surface, the cell disintegration continues downward into the underlying tissues with the germs remaining just within the area of the living cells. The induration is brought about by a massing of the three types of cells already mentioned, together with a marked thickening of the vessels terminating around the ulceration.

This process is a beneficent one, in that it is nature's effort to hold these whirling, penetrating, poisonous bacteria within circumscribed bounds, preventing them from migrating into adjoining fields, or entering the lymph spaces, thereby producing a systemic infection. In some instances she succeeds in this, and the healing of the chancre may terminate the syphilitic process. On the

other hand, the germs may be so virulent that their destructive processes may enable them to penetrate this wall, pass out into the lymph vessels where they find lodgment in the nearest lymph gland. This marks the beginning of the invasion of the interior. While this is taking place the local tissue destruction continues until a deep indurated ulcer results and remains until sufficient immunizing forces are established on the part of the host to cause its healing. Repair occurs only after the germs have invaded the system and stimulated the building up of sufficient antibodies to check the progress of the disease at the initial focus of the infection.

When the germs begin to migrate from the initial lesion either passively through the lymph or actively by their own motile power, they set up a decided thickening and fibrosis of the lymph and blood vessels which they invade or approach. This is another effort of nature to close the getaway through which they are entering. She does this so successfully in some instances that all of the lymph vessels leading from the infected area become blocked and produces the well known condition of indurative oedema. The induration is produced by the thickening and fibrosis just described. The oedema is caused by the exudate from the blood vessels not being able to pass back through the lymph vessels on account of this indurative occlusion. As they free themselves from this imprisoned state, either through less obstructed vessels or otherwise, they invade the nearest glands, thus beginning a systemic infection. Often the hard cord like indurated lymph vessels leading from the ulcer to the inguinal glands can be felt under the skin along the dorsal surface of the penis.

The papule is simply a modified chancre and the same pathological processes take place in it as do in the latter. The difference is that the germs penetrate more deeply before they begin to build up the granuloma, the surface cells do not die early, but become hardened with the other surrounding tissues. The spirochaetes find their way into the lymphatics and set up systemic infection before extensive ulceration takes place. This is a midground between the syphilitic ulcer and cryptic invasion.

Cryptic invasion occurs when the mucous surface is soft, permeable or broken. It offers no resistance to the invading germs, but

allows them to pass directly into the lymph vessels without producing a local lesion, as is the case in the foregoing instances. The resultant systemic infection, a description of which follows, develops in the same way in all three of these types.

III.

We have now lodged the spirochaetes within the lymph glands nearest the original point of entrance and the systemic invasion has begun. The glands begin to proliferate cells and establish a resistance against their foe as soon as invaded. The nodes thus infected form a nidus for rapidly multiplying bacteria. These germs move along the lymph channels by their own propelling force, aided by the lymph current until the whole chain of glands along their course are laden with multiplying spirochaetes. Hoards of them flow freely in the larger lymph vessels as the latter approach the subclavian vein. Germs are emptied into this vein in countless numbers, from which source a heavy shower of specific micro-organisms is poured into the general circulation, where they reach every organ in the body which has a capillary circulation.

At this point the second stage becomes clinically manifest by the systemic treponoma shower producing an eruption upon the skin. In order to discuss further pathological changes it becomes necessary to describe more fully granulomata as applied to tissue defence. There are four principle granulomatous diseases and two or three minor ones. The more important ones are tuberculosis, syphilis, actinomycosis and blastomycosis. These diseases are the ones the pathogenic germs of which, for specific reasons, can not be successfully attacked by phagocytosis, and are, therefore, nonpyogenic. In view of the fact that they cannot be attacked by white blood cells, nature must provide other means of defense. Pursuant to this end she establishes a barricading method of protection by building a cell wall around the enemy. This walled in mass of germs is the granuloma mentioned in describing incipient chancre. There is a difference, however, in the syphilitic and tubercular granuloma in that the latter is more dense, therefore, sooner dies and caseates at the center, and is not so far-reaching into the surrounding tissues. The blood vessels become degenerated and disappear in the cen-

trally compressed area resulting in starving, poisoning, autolytic softening and caseation.

The defensive somatic cells in a syphilitic granuloma on account of the motility of the spirochaete have to play a more wide open game, and, therefore, it is more loosely constructed. The cells have to disseminate themselves deeply into the surrounding tissue to checkmate the migrating spirals. In consequence of this there is a less dense massing of the epithelioid and lymphoid cells and fibroblasts, with an incomplete destruction of the blood vessels, but the toxins produce a thickening and induration which exists not only in them, but in the lymphatics and other surrounding tissues. These cells may finally become so massed, the vessels which supply them with nutrition so much accidied, and the toxins produced by the multiplying germs so abundant, that the central portion of this granuloma will also die. This is not a suppuration, but a tissue death, which undergoes softening from autolytic action and becomes infiltrated with migratory cells and constitutes the syphilitic gumma. Many of these may merge together, producing quite a large quantity of fluid substance simulating pus. This colliquified area may either become attenuated, encysted, and absorbed, the destroyed structures being supplanted by fibrous tissue infiltration; it may become infected with pyogenic germs and supurate; or it may find its way to the surface by following the path of least resistance and be discharged. Gummata vary in appearance, consistency, activity of development, and harm to the host, proportionally to the latter's resistance, and the quality of structure in which the former develop, as skin, bone, muscle, areola tissue, liver, brain cord, glands, etc.

We recall that the spirochaetes had just invaded the venous circulation when we diverted to describe general granulomatous infections. Both tuberculosis and syphilis invade the system through the lymph channels into the veins. The question arises, why does the tubercle bacilli have a predilection to the lungs and other organs of terminal circulation while the spirochaetes choose the more vascular structures with collateral circulation. The reason of this is the motility of the one and the lack of this attribute in the other. When the tubercle bacillus reaches the lung through the venous circulation, it is either in clumps, where it will plug a capil-

lary, produce a microscopic infarct around which is soon built up a tubercle or the individual germs may pass through these capillaries where they are whipped around in the blood system until they are disintegrated or find lodgment in other terminal organs and establish similar lesions. They move mechanically and must rest wherever they lodge.

On the contrary, when the spirochaete reaches the lung, it either passes through into the systemic circulation or gets blocked in a capillary. In cases of such blocking it does not produce an infarct, but migrates by rotary motion between the endothelial cells and lands in an air vesicle where it either is thrown out with the mucus or makes its way again between the endothelial cells and lodges in another capillary where it is again swept into the blood stream. In this way the shower previously described sprinkles spirochaetes into every organ of the body. When the germs reach the systemic capillaries, they, by their own propelling force, leave the capillaries and enter the dense surrounding structure which is more impervious than the lungs, and where they can move with less freedom than in the latter organs. They lodge in these tissues and build a colony, nature aiding them in producing a granuloma. The skin being tougher and more resistant than other organs entangles the germs more successfully in its meshes, thereby producing myriads of minute granulomata which produces the well known mucular eruption.

The body structures when this influx takes place are so overwhelmed with poisonous bacterial products that anti-bodies are formed in great quantities, and a resistance is soon established whereby these myriad granulomatous foci are checked in their incipency, leaving small brownish, elevated, indurated papular areas upon the skin. In some of these the germs may lie dormant for quite a period, in others they may be completely destroyed and the lesion healed, while in a few they may continue to progress slowly, producing the well known serpiginous syphilides and other varying skin lesions. In the deeper structures of the body, germ activities may become so great that they are only feebly checked by immunizing forces and the result is a gumma. So a syphilide and a gumma are only granulomata in different degrees of progress.

The rise and fall of granulomata varying in their virulence from the feeblest macule or syphilide to the most malignant, confluent gumma, developing at any period of hectic activity in all parts of the body from the hair follicle to the heart, represents kaleidoscopic changes in the pathologic complex we call syphilis. There is only one ever varying stage liable to manifest any phase of the disease at all times, and lasting from the time of the systemic invasion until the somatic cells conquer or death closes the scene.

Should the somatic cells conquer late, after destructive changes have become so great in the brain and cord that the parenchyma cells are destroyed and the function of these organs hopelessly impaired the result is metasypilis, and might be designated the third stage.

THE ORIGINAL WASSERMANN VS. THE NOGUCHI REACTION FOR THE DIAGNOSIS OF SYPHILIS.*

By Allen H. Bunce, M.D., Pathologist Georgia Baptist Hospital and Associate in Medicine Atlanta Medical College (Emory University).

In order to interpret intelligently the relative value of complement-fixation tests for the diagnosis of syphilis it is necessary for us to understand, first, the principles involved in complement-fixation; secondly, the points of difference between the two systems, and, thirdly, the advantages and disadvantages of each system.

It has long been known that when red blood corpuscles of an animal are placed in various solutions they lose their hemoglobin and undergo disintegration. This process of going into solution is called hemolysis. The blood cells of some animals will undergo this disintegration when placed in the blood serum of certain other animals. The substances present in the blood serum which cause this hemolysis of the cells of a different animal are known as amboceptor and

complement. Complement is present in all blood serums while amboceptor is not. Amboceptor for the cells of one animal may be present in the serum of a given animal while the same serum may contain no amboceptor for the cells of a different animal. These substances which are present normally are called normal amboceptors and normal complement. They may be separated from one another since by heating the serum to 56° C. the complement is destroyed, leaving the amboceptor free in the serum.

In addition to the natural amboceptor, which is found present in the blood serum of some animals, an artificial amboceptor may be produced by injecting the corpuscles of one animal into another. In other words, we may, by repeated injections into a rabbit washed sheep's corpuscles produce in that rabbit's serum enough amboceptor so that a dilution of the serum of 1 to 1,000 with salt solution will still hemolyze sheep's red cells. Furthermore, the amboceptor produced in this way is specific, that is, if it is produced in the rabbit as a result of repeated injections of sheep's cells it will act only on sheep's cells and not on those of any other animal. In like manner if we produce amboceptor in a rabbit as a result of repeated injections of washed human blood cells the rabbit's serum will acquire the property of hemolyzing human red blood cells, but will not affect those of a sheep. We will have accordingly an anti-sheep or anti-human amboceptor depending upon whether we immunize our rabbit with sheep or human blood cells. Of course, when anti-sheep amboceptor is used sheep cells are used in the test and when anti-human amboceptor is used human cells are used in the test.

The other factor entering into reaction, the complement, is much more unstable than the amboceptor since it loses its activity in a short time when kept at room temperature, and in a few days when kept on ice. Furthermore, it may be destroyed, as stated above, by heating the serum to 56° C. for twenty minutes. Hence it has been found best to destroy the complement which is contained in the immune serum of the rabbit and to substitute complement from another source. Since the serum of the guinea pig contains complement in rather large and almost constant quantities this serum is used in both the original Wassermann and Noguchi reactions.

*Read at meeting of Medical Association of Georgia, Columbus, Ga., 1916.

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It is necessary for both amboceptor and complement to be present for hemolysis to take place since neither can hemolyze cells independently. So far we have only amboceptor, complement and blood cells. This combination of amboceptor, complement and blood cells is called the hemolytic system. This constitutes the first difference between the original Wassermann and Noguchi reactions as in the original Wassermann an anti-sheep hemolytic system is used, whereas in the Noguchi an anti-human hemolytic system is used.

There is developed in the blood of patients suffering with different diseases substances called anti-bodies. These may be agglutinins, bacteriolysins, alexins, opsonins, etc. However, the anti-body developed for any given disease is specific for that disease. For example, the blood serum of a patient suffering with typhoid fever has the property of agglutinating typhoid bacilli while that from any other disease does not agglutinate typhoid bacilli. In serological tests these anti-bodies are not demonstrated directly, but indirectly, in the following manner. The anti-body may unite with another substance introduced into the serum—antigen and in turn this antigen-antibody combination has the power of absorbing or fixing complement. This is the principle upon which all complement-fixation tests is based, that is, having prepared amboceptor and complement and having introduced into this combination a serum containing a given anti-body as the result of a given disease and then having added an antigen for this particular anti-body, the antibody and antigen will unite and bind the complement present and thus prevent the amboceptor-complement mixture from hemolyzing the blood cells which are added later. As there is no macroscopic or microscopic change in the mixture before the cells are added the only way in which to find out if the complement has become fixed is to add cells to the mixture which would dissolve them if the complement were free; however, if the complement has become fixed the cells will not be destroyed, but will settle to the bottom of the tube and we will have an inhibition of hemolysis.

Therefore, when we have prepared an amboceptor by repeatedly injecting a rabbit with sheep or human blood cells and have destroyed the complement which would naturally be present in the blood serum, and

when we add to this amboceptor a given amount of complement we have a combination which will hemolyze sheep or human cells. When we add to this mixture of amboceptor and complement the blood serum of a patient suffering with syphilis and, therefore, containing an anti-syphilitic anti-body and then add a suitable antigen the anti-syphilitic anti-body will unite with the antigen and these in turn will bind the complement and later when we add our cell suspension there will be no hemolysis because the complement has become bound and the amboceptor can not hemolyze the cells independently. This is what we call a positive reaction, i. e., where the complement is fixed or bound, and we get an inhibition of hemolysis.

Now we may proceed with a comparison of the two systems of complement-fixation which we have under consideration. We have already stated that in the original Wassermann an anti-sheep hemolytic system is used, whereas in the Noguchi an anti-human hemolytic system is used. The advantages of an anti-sheep hemolytic system are these: Rabbits are more easily immunized to sheep cells than to human cells, that is, a rabbit is capable of reacting to sheep cells more readily and will produce an amboceptor of much higher titre. Whereas an amboceptor can be readily produced which will be active in dilutions of 1 to 2,000 by using sheep cells; only an amboceptor which will be active in smaller dilutions as 1 to 40 (Craig) or 1 to 600 can be produced by the use of human cells. Further, many more rabbits die as a result of the injection of human cells than as a result of the injection of sheep cells. This constitutes the chief advantage, according to most observers of the anti-sheep system, that is, that an amboceptor of higher titre can be prepared more easily and without the loss of rabbits injected. And also, the fact that it is more difficult and more expensive, on account of the loss of many rabbits, to produce a suitable amboceptor by the injection of human cells is the chief objection to the anti-human system. For to be suitable for use it is necessary for the amboceptor to be active in rather high dilutions, as in the lower dilutions the large amount of serum present may cause agglutination of the cells when performing the test and, therefore, prevent hemolysis from taking place.

As stated above there occurs in the serum of some animals a natural amboceptor for

the cells of certain other animals. For example, it has been shown that human blood serum contains natural amboceptor for the blood cells of the sheep. Kolmer and Casselman, in a study of this subject, have found that "in over 80 per cent of human serums there is present sufficient natural amboceptor for sheep's cells to give well marked or complete hemolysis." In testing the blood of 125 different individuals they found that 64% of them gave complete hemolysis with 2 c.c. of human serum, the maximum dose of serum used in the original Wassermann system, that 20% showed 75% hemolysis, 9% showed 25% hemolysis, while only 7% showed no hemolysis. Hence in these 125 cases the natural anti-sheep amboceptor present in the human blood serum would have interfered to some extent with the original Wassermann in 93% of the cases. This presence of natural anti-sheep amboceptor in sufficient quantities to cause "well-marked or complete hemolysis in over 80% of human serums" forms the chief disadvantage in the use of the anti-sheep hemolytic system. However, Kolmer states that with the proper technique this factor may be reduced to a minimum or this natural anti-sheep amboceptor may be removed by placing sheep cells in the inactivated serum of the patient before the test is made and allowing them to stay for awhile and then removing them by centrifugalizing the specimen. I don't know to what extent this is followed in the performance of this reaction by those using the anti-sheep system, but it seems to me to be a necessary procedure in order to eliminate the source of error. This constitutes the chief reason for the introduction of the anti-human system by Noguchi, as in it this source of error is eliminated.

Another important factor to be considered is the patient's serum. Shall it be in the active or inactive state? That is, shall it be heated to 56° C. or shall it be used without heating it? In the original Wassermann system the patient's serum is heated so as to destroy the complement contained in it, while in the Noguchi system it is used in the active state without heating it or in the inactive state as is preferred by the one doing the test, only when using the inactive serum it is necessary to use a larger quantity of the serum in the test. By heating or inactivating the patient's serum we diminish the anti-syphilitic anti-body at the same time we de-

stroy the complement. This renders the test with the inactive serum less sensitive than with the active. However, in using active serum it is necessary to use an acetone-insoluble lipoid antigen or otherwise the protein present in the ordinary alcoholic extract will give rise to a proteotropic fixation and hence a positive result would be obtained in a non-syphilitic serum. However, when inactive serum is used an alcoholic extract may be used with the anti-human as with the anti-sheep system. In the anti-human system when the patient's serum is inactivated this system gives practically the same results as the anti-sheep system.

The third important consideration is what shall be used as antigen. Wassermann, Neisser and Bruck used an aqueous extract of foetal syphilitic liver as antigen. This was thought by them to be a biologically specific antigen, that is, that it had the peculiar property of combining with the anti-syphilitic antibody in the patient's serum, and that it would form no other combination. They selected foetal syphilitic liver because of the large number of spirochaeta contained in it. However, it was shown later by a number of observers that aqueous extracts of normal liver tissue acted as suitable antigen. Subsequently alcoholic extracts of liver and heart tissue human, guinea pig and beef were found to be suitable for antigen when properly titrated. With the discovery of a method of growing spirochaetae by Noguchi and with the preparation of an extract of pure cultures it was thought that a perfect antigen would be available. However, in practice it has been found that the extracts made from pure cultures of spirochaetae do not give as satisfactory results as the other antigens already in use. Fixation of complement with this antigen is incomplete or negative in cases where it is complete with the other forms of antigen. Hence it was discarded and we were left where we were before this could be prepared. However, it served to show that the complement-fixation reaction for syphilis is not biologically specific.

Noguchi in trying to find a suitable antigen discovered that the acetone-insoluble portion of heart and liver tissue served as a convenient, stable and reliable preparation. By this process of using only acetone-insoluble fraction many proteids are eliminated and we get an antigen of pure tissue lipoids. The objections to this antigen are that it is diffi-

cult of preparation in that only about half of the specimens prepared are found to be suitable when titrated. It is claimed by some that it is not as constant in its reaction as the extracts of syphilitic liver tissue.

The chief objection to the original antigen of Wassermann, that is, an aqueous extract of foetal syphilitic liver is that it does not keep well and must be freshly prepared frequently. It soon becomes anti-complementary and must be discarded. The original antigen is now used, as a rule, only in European clinics on account of this fact. In most clinics and hospitals in America we find that alcoholic preparations of antigen are used as a routine.

In fact, making a survey of the field we find many modifications of the original Wassermann technique and also many modifications of the Noguchi technique. In the original Wassermann technique the total volume in each test is brought up to 5 c.c. We find many using this system employing 2.5 c.c., which is only half the volume advocated by Wassermann. Citron, Wassermann, Kaplan and others still make the total volume up to 5 c.c.

Kaplan uses an alcoholic extract of guinea pig heart tissues to which 4% cholesterol has been added for his antigen. Kolmer and others use two or three different antigens: (1) An alcoholic extract of foetal syphilitic liver tissue; (2) an alcoholic extract of normal heart tissue (human or beef) to which cholesterol has been added, and (3) a Noguchi or acetone-insoluble antigen. An antigen to which cholesterol has been added is more sensitive than any other antigen and gives a higher percentage of positive reactions, and it is claimed by those using it that it is a better test to use in determining whether or not a patient is cured of syphilis, but that is not so reliable in making a diagnosis and must be checked up with another antigen. At the Phipps Psychiatric Institute, Johns Hopkins Hospital, three antigens are used; (1) Alcoholic extract of foetal syphilitic liver; (2) Noguchi antigen, and (3) Cholesterol antigen (Dr. S. L. Miller and Dr. C. A. Neymann), while in the general laboratory for the medical and surgical sections only one antigen is used—an alcoholic extract of human heart, to which cholesterol has been added (Dr. M. Clark).

Kaplan says that it is immaterial what one uses for antigen so long as it conforms

to the requirements of the reaction, that is, that it will inhibit syphilitic sera and will not interfere with hemolysis in normal sera.

In a recent article in *The Journal of Experimental Medicine*, Larkin and Levy make the statement that an antigen prepared from an alcoholic extract of guinea pig heart with the Wassermann technique is of most value in the diagnosis of syphilitic aortitis.

With those using the anti-human or Noguchi system we find equally divergent opinions as to antigen. Many use the original Noguchi technique throughout. At the Mayo Clinic Dr. A. H. Sanford states that this original technique of Noguchi has proved entirely satisfactory. In the United States Army Medical Department Craig and Nichols found the following to be most satisfactory: (1) An anti-human system, according to Noguchi; (2) an alcoholic extract of syphilitic foetal liver as antigen; (3) the patient's serum used in the inactive state. Recently Dr. A. B. Jones informed me that an alcoholic extract to which cholesterol has been added is now used in the army. All the work of Craig and Nichols, who have done so much for serology in the United States, has been done with the anti-human system.

Finally it would seem that the accuracy and reliability of the reaction when performed with any hemolytic system and with any suitable antigen depends to a large extent upon the attitude, care and technical skill of the serologist. In order to get the best results one should select a method proved to be reliable and become thoroughly familiar with it and perform it as a routine realizing its limitations. A strongly positive fixation with either system means that the patient is undoubtedly syphilitic in practically all cases. It is only where a weakly positive or incomplete fixation takes place that the reaction becomes of less value and should be considered, only as a symptom of the disease.

824 Healey Bldg.

(Discussions on Page 28.)

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COMMITTEE ON MEDICAL DEFENSE

ORGANIZATION MEETING SEPTEMBER 9, 1916.

Present—Drs. Davis, Clark, Pilcher, Coleman and Lyle. Meeting called to order by Dr. Lyle, and on motion proceeded to organize by electing Dr. M. A. Clark, Chairman, and Dr. W. C. Lyle, Secretary.

The By-Law, authorizing the work of the committee, was read by the Secretary:

Committee on Medical Defense.

The Committee on Medical Defense shall consist of five members, of whom the Chairman of the Board of Conneillors and the Secretary-Treasurer of the Association shall be members. The other members, one of whom shall act as Chairman of the Committee, shall be elected by the Council for a period of five years. Those elected at this meeting to serve one, three and five years, respectively.

It shall be the duty of the members of the Committee on Medical Defense, severally or collectively, to investigate and defend all damage suits against the Medical Association of Georgia, to investigate all claims of civil malpractice made against members; to take full charge of cases which, after investigation, they will have decided to be proper cases for defense; to defend such cases to the end and pay all costs of such defense; but they shall not pay, or obligate the Medical Association of Georgia to pay any judgment rendered against any member upon the final determination of any such case. They shall be empowered to contract with such agents or attorneys as they may deem necessary, but shall always consult the defendant in employing attorneys.

The assistance for defense, as herein provided, shall be available only to members of the Medical Association of Georgia in good standing. A member in arrears with annual dues after February 1st shall not be entitled to defense as herein provided for any suit, the cause of action of which arose while said member was in arrears.

Any member or members of the Medical Association of Georgia threatened with suit for civil malpractice, who desires the assistance of the Committee on Medical Defense, shall, immediately that he becomes aware of the threat to sue, so notify the Secretary of the Association, or the General Attorney of the Association, in the instance there is not time to communicate with the Secretary. The Secretary or General Attorney, so notified, shall proceed immediately to investigate the circumstances reported, in the manner and after the procedure hereafter to be set out by the Committee on Medical Defense, securing for the consideration of the said Committee full data and statement of facts and circumstances surrounding the filing of the suit or suits for its consideration and permanent files. The member sued or threatened with suit, and under investigation by the Committee on Medical Defense, shall be consulted and have the full confidence of the Committee in all transactions connected with the investigation in question. The Committee on Medical Defense shall have the authority to require of a County Society or the President thereof, the appointment of a committee of investigation in any such case, and it may direct the said committee so appointed to report to the Committee on Medical De-

fense and not to the Society from which it is appointed.

It is understood the Association will not undertake to defend suits brought as offsets for bills for services rendered, or where it is understood the plaintiff will not sue for alleged civil malpractice if suit is not brought for collection of the services rendered at the time the cause for action arose.

The Committee on Medical Defense may also at its discretion arrange to prosecute illegal practitioners and enforce the Medical Practice Act of this State.

Moved by Dr. Pilcher, seconded by Dr. Coleman, that the Committee proceed to the election of a General Attorney. Hon. M. L. Felts, of Warrenton, Ga., was elected as General Counsel.

The following fee bill was adopted:

Filing an answer, \$25.00.

Defending a suit, \$100.00.

Defending a suit away from home, \$100.00, together with a per diem of \$25.00.

Defending a suit in a higher court, same as original defense.

Resolved, That the Committee is not authorized to defend any suit, the cause of action of which arose prior to the adoption of the By-Law creating the Committee.

Moved by Dr. Davis that in the event of suit being threatened or brought against any member, the papers in such case shall be filed with the Secretary, and together with the report of the local investigating committee, shall be mailed to the Chairman and through him to each member of the Committee on Medical Defense.

The Secretary is empowered to appoint local investigating committees and shall report the names of the members of such committees to the Chairman.

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DISCUSSION ON THE PAPERS OF DRs. MERRITT AND FOWLER.

Dr. E. G. Ballenger, Atlanta: I would like to speak for a moment about one other cystoscope we have found very useful, and that is the cysto-urethroscope of McCarthy. It shows the prostate gland as well as the gland of Littre, and the small follicles in the roof of the urethra. I can readily understand it is difficult to cover all these things in one short paper. However, I think that is one thing that is very important because it enables us to master one phase of genito-urinary work which has troubled us a great deal in the past, and that is the foci of infection that remain in these follicles in the roof of the urethra. The cysto-urethroscope gives us a most surprising view of pockets and follicles, sometimes as many as twenty-three, which I noticed the other day. These harbor gonococci, and, according to my experience in the past six months, since I have been using the method of Swinburne of destroying these pockets again, nineteen out of twenty patients who have recurrent gonorrhea, the prostate gland and semi-nal vesicles are non-infected. A small silver electrode can be passed into the pocket and the high frequency current turned on, and after a few weeks there is a sloughing away, leaving a smooth surface instead of a pocket, where medicine can not reach the organisms, and where the germs remain perhaps quiescent for a considerable time until dissipation or lack of treatment establishes the recurrence of gonorrhea.

Dr. W. L. Champion, Atlanta: I want to congratulate both Dr. Merritt and Dr. Fowler on the valuable papers they have presented to this Association. They bring out a fact which, I think, is being recognized more and more every day, and that is that the general surgeons recognize the importance of the cystoscope and its scientific use in diagnosing various diseases and complications that heretofore they were unable to recognize. There is no doubt that the cystoscope has added greatly to our armamenta-

rium in making diagnoses. It is being used more generally all over the country. That has been well brought out before this Association.

Another point Dr. Fowler brought out was with reference to the amount of urea in urine. I think the output of urea is a thing that, as he has stated, was overlooked until recently, and I am glad to notice that he makes this point, that an examination ought to be made carefully in every surgical case with especial reference to the amount of urea.

Dr. Merritt (closing): There is nothing more I care to say, except to make a few remarks on this high frequency current applied to the urethra. It causes a severe sloughing of the mucous membrane of the urethra as a general rule, although it may be of benefit in destroying follicular gonorrhea. I have tried it but a few times, and have had so much disturbance that I do not think I will try it again.

I use the urethroscope in treating these cases and take a strong solution of silver nitrate and turpentine and usually inject a drop of the silver nitrate or turpentine into the follicle, but in some of the cases I have treated there was as much sloughing of the mucous membrane of the urethra as there was from the high frequency current.

Dr. Champion mentioned urea. That is a very important phase of this subject, and I am very much indebted to Dr. Crile for teaching me a new method of rapid estimation of the urea output.

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Pellagra may be prevented or cured by proper diet?

DISCUSSION ON THE PAPERS OF DRS. THRASH, BUNCE AND SWANSON.

Dr. Charles W. Gould, Atlanta: Dr. Champion stated that tertiary syphilis might be delayed from three or four weeks to thirty years. That statement is very illuminating, and is a strong argument in my mind for the use of the Wassermann test in the diagnosis of syphilis. It is of the greatest use and value in the diagnosis of obscure conditions to the general practitioner and internist.

There were recently reported four thousand Wassermanns in a general hospital, six hundred of which were positive, with a percentage of fifteen. In most of those unsuspected, as syphilitic treatment helped them very much. A great many of them were diabetic. Very recently a patient came to me with diabetes of nine or ten years' standing, with 10 per cent sugar output, and on examination it was found that she had syphilis, and the syphilitic treatment cured her diabetes.

On the way down to this meeting this morning I read the paper of Dr. Ballenger. He recommended in that paper a new designation by the serologist of negative, doubtful and positive, and being in the doubtful class the one and two plus positive. When they are reported doubtful he recommends the therapeutic test. I think that suggestion, coming from a man of such wide experience in syphilis, is valuable, and I am going to consider seriously the advisability of reporting cases in that way, so that when they are reported doubtful the thing to clear up the doubt will be to use very small doses of salvarsan or one of the substitutes that is sold for salvarsan, arsenobenzol being preferable. To the man who treats venereal diseases the Wassermann is valuable to him in following up the treatment of cases.

Dr. Champion (closing): I have nothing in particular to say, except to call attention to the fact that possibly some of the members have not used or have not heard of arsenobenzol, which is put out by the Medical Research Laboratory at the Philadelphia Polyclinic. I have used seventy-five administrations in the past few months, and I have found it practically the same as salvarsan. It is made in this country, is cheaper than salvarsan, and I think if you will try it out you will get just as good results as with the German preparation.

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No. 6

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THE DIAGNOSIS OF DUODENAL ULCER —X-RAY AND OTHERWISE.*

George M. Niles, M.D., Atlanta, Ga.

Ulceration of the stomach, or duodenum, may exist whenever unneutralized gastric juice comes in contact with the mucosa. Formerly gastric and duodenal ulcers were not well recognized as separate clinical entities, partly from lack of care in locating them, and partly because, in the presence of ulceration with adjacent adhesions, it was difficult to establish the line of demarcation between the pylorus and duodenum. I may safely assert that many ulcers formerly called pyloric are now considered of duodenal origin.

Ninety-five per cent occur in the first portion of the duodenum.

According to present-day statistics, duodenal ulcer is found 77 times in men to 23 in women, while in gastric ulcer the percentage is practically even.

Duodenal ulcer is usually found in patients between the ages of 25 and 50, though a small number under or over these ages may suffer.

Gastric disturbances are by no means constant, though occasionally there may be noted vomiting or spitting up of sour material. Appetite is nearly always good.

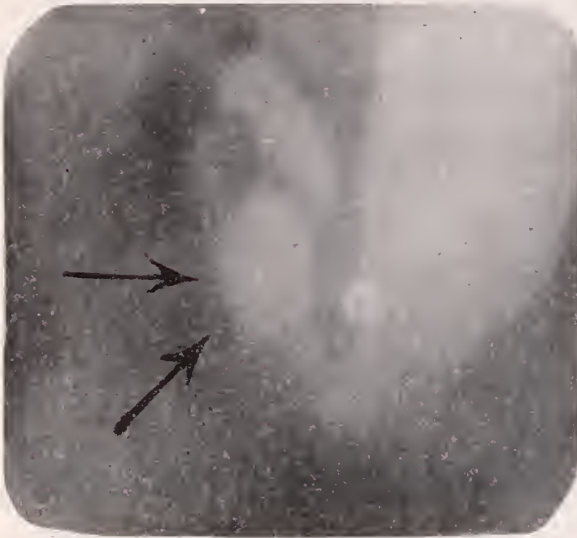
Hemorrhage is rare, as compared to ulcer of the stomach, though from the bowel is not infrequent. Occult blood in stools is strongly diagnostic, and when absent means either a quiescence or cicatrix of the erosion.

Pain is usually in right hypochondrium, or in the median line slightly above the umbilicus. It seldom radiates. This pain occurs 2 to 4 hours after eating, and often just before the time for the next meal. Ingestion of food generally relieves this pain for a while. This is an important point when differentiating from gastric ulcer. Alkalies also modify or ease this pain.

The distress of duodenal ulcer is noted for its periodicity, for there are happy intervals in which are observed freedom from pain or other symptoms of digestive ill being.

*Read at meeting of Medical Association of Georgia, Columbus, Ga., 1916.

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No. 1

This and the following illustrations taken at half-hour intervals show in no instance a normal, well-filled duodenum.

Gastric hyperacidity is quite persistent, but occult blood is seldom present in the stomach contents.

Einhorn's thread impregnation test is worth while when an expert Roentgen examination is not available. There are several sources of error connected with this test, however, and too much significance should not be placed upon a rusty brown spot on the thread, even if it appears at the 59 or over cubic-centimeter mark.

These diagnostic features, having been briefly considered, we will now take up the Roentgen findings as indicative of the presence or absence of duodenal ulcer.



No. 3

To demonstrate the anatomical condition of the first portion of the duodenum demands neither mysterious manipulation nor pseudo-scientific legerdemain—it simply requires a reasonable amount of care in technique.

Anatomically, we should remember, the first portion of the duodenum is a constant entity, and, if normal, can be shown on one or more plates with characteristic shape and smooth outline. There should be no exceptions to this postulate. Therefore, a constant defect in the duodenal cap on the plates means a pathologic condition, and such may arise from ulcer, adhesions due to cholecystitis, or anatomical or accidental variations, such as pressure from adjacent structures.

George and Leonard make this positive statement: "Any duodenal ulcer which is more than a simple mucous membrane erosion will deform the outline of the bismuth



No. 2



No. 4



No. 5



No. 7

mass. To this statement there is no exception."

It may further be asserted that a normal duodenal cap on the plate rules out chronic indurated or surgical ulcer, with the rare exception of a small, recent and acute ulcer which perforates without warning. This, however, is a remote possibility.

Factors which tend to interfere with the proper filling of the duodenum and consequent demonstration of the same are pyloric spasm, pressure from a distended gall bladder or enlarged liver, spasm due to cholecystitis, gall-stones, pelvic abnormalities, chronic appendicitis, old adhesions or obstructive conditions of the intestines. The size and physique of the individual also have to be considered, for excessive accumulations of fat or

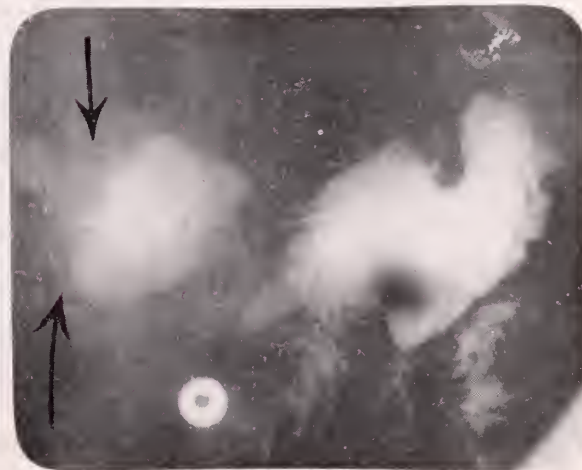
abdominal anomalies render the task more difficult.

To either satisfactorily fill the duodenum or to be properly satisfied that it can not be filled, calls for no set rule. Plates should be made with the patient in the prone and standing position, or lying on the right side. Many variations of these positions may be employed—in fact, I have placed the patient in nearly every position except standing on the head, and that may yet be resorted to, if necessary. As to time, the plates should be taken at frequent intervals from the ingestion of a buttermilk and barium meal until the stomach is empty—the more plates, the better.

This brief diagnostic outline will be elucidated by the varied appearances of a de-



No. 6



No. 8

formed, unfilled duodenum. In this instance a diagnosis of duodenal ulcer with adhesions was positively made, and later verified by operation.

In closing, let me remark that, as a clinical and pathologic entity, duodenal ulcer merits much more attention than it has in the main received.

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No. 9

DISCUSSION ON THE PAPER OF DR. NILES.

Dr. J. T. Rogers, Savannah: I wish to thank Dr. Niles for his excellent paper. I have enjoyed it very much. The doctor says he does not depend upon these x-ray pictures altogether, but he uses a test we have been using for many years. This is only a help, but I would emphasize still more the point that we can not depend altogether upon these pictures. Every one of us who is doing this special work has a tendency to depend upon these pictures after we have succeeded in making a good many diagnoses correctly by them, because these other tests are troublesome and take time and a good deal of work.

A short time ago we had a case in which we thought we had made a correct diagnosis and omitted some of the other tests that we stomach men make. We do not do this work ourselves, but we have an expert to do it for us, and we decided we would have pictures made, so that we might get out of using

some of the other tests. We thought there was an old ulcer of the pylorus that the patient had which would close up so that food could not pass and would remain in the man's stomach as we thought twelve hours or more. We were misled there; consequently we had pictures made to see if this was correct. We found that the stomach emptied itself perfectly within six hours. So these pictures are good, not only in telling positively what is the trouble, but in a negative way they help us. They did not tell us what the trouble was in this case, but they did tell us what it was not. The patient did not have the trouble we thought he had, and we had to make use of the string test. The doctor does not seem to think as much of the string test as I thought he did, but in our experience it has been a great help. We feel it is one of our best means of detecting a bleeding ulcer in the stomach and duodenum. We have passed the string at 8 o'clock at night and have taken it out at 8 o'clock the next morning and have found blood an inch and a half below the pylorus. We made a diagnosis of ulcer of the duodenum an inch and a half below the pylorus. This man did not want to be operated on in Savannah, so we sent him to Dr. Finney, of Baltimore. He was operated upon by Dr. Finney, and an ulcer found where the string test had shown. While these pictures would not show us what it was, they helped us wonderfully in guarding against making a mistake in the diagnosis. We believe it is one of the best helps we have, but every man doing this work should put forth every effort he knows in using the laboratory tests and string tests, and then finish up with x-ray pictures.

Dr. Niles (closing): I have no issue to take with what Dr. Rogers has said. I think he is absolutely correct. We have no right to disregard any possible means of investigating the condition of patients that come to us. We should make use of every one of these tests. I do not claim that the Roentgen examinations are necessarily conclusive or always conclusive. They are one of other means of discovering what is wrong and it is our duty not to leave off any of the clinical history, the physical examination, or the laboratory tests.

I have been disappointed on one or more occasions with reference to the findings by the string test. It is unnecessary to go into

particulars, but I have been jarred a little on one or two findings of apparently rusty brown spots at certain places, and later on there was no special trouble at those places. The string test is very much like what Dr. Kendrick said of a good friend of his, whose name I will not mention, that Dr. So-and-So is very well in his way, and so the string test is very well in its way. (Laughter.)

Roentgenographic examination of gastrointestinal cases is just a new method of diagnosis. It is now in its sixteenth year, and as a method of diagnosis we may say that the child Roentgen is just becoming of age. It was discovered in 1895, and is now in its 21st year. It is growing and developing. It is a young boy, but it is a good boy, and if we will encourage the boy he will grow up and make a strong, dependable man, and we must bring him up and nurture him and he will help us out, and he will stand by us when we need him, I am sure. (Applause.)

THE ROENTGENOGRAM IN THE DIAGNOSIS OF RENAL CALCULUS.*

Charles Dalton Cleghorn, M.D., Macon, Ga.

Roentgen ray diagnosis in general is still in its infancy, and the roentgenological diagnosis of renal calculus is one of the younger branches of this youthful, though vigorous, growth.

The surgical text-books of the first few years of this century either mentioned the roentgen ray as a thing to be avoided as too uncertain in the diagnosis of renal stone, or stated that it was of value only in a very thin patient, or in doubtful cases which exhibited a poor symptom complex. The tubes, transformers, and technique constantly developed, however, and as results improved more and more stress was laid on the importance of roentgenography. But even as late as 1908, Butler, in his work on diagnosis, dismissed the subject entirely in these few words: "Several investigators have successfully diagnosed renal calculus by means of the roentgen ray."

There is no need for me to trace the gradual shifting of opinion from this extreme skepticism to the point where it now is established. Let it suffice to say, that today no surgeon who can procure a roentgenogram would undertake without one to operate upon a case of nephrolithiasis. There are several good and sufficient reasons for this stand.

First, it is well known that the typical renal colic may or may not signify the presence of a stone in the kidney or ureter. It may be due to torsion or twisting of the ureter. It may be due to extra-renal conditions altogether, or especially may it be referred to the unaffected side. The roentgenogram clears this up.

Second, granted a stone in the kidney or ureter evidencing all the classical symptoms, colic, urinary findings, etc. But frequently calculus is present on the opposite side, also, which is giving rise to no symptoms. All authors agree that even a large stone may be present in the pelvis of the kidney with no manifest symptoms. In such a contingency the question would arise, which stone to remove first, and the roentgenogram would have pointed out the warning.

Third, when there is unmistakably a stone in one kidney, the roentgenogram not infrequently shows one or more additional calculi in the parenchyma of the organ, which would never otherwise have been suspected nor searched for by the surgeon. The roentgen ray establishes this point positively or negatively.

Fourth, following an attack of renal colic the calculus, which at the beginning of the attack may have been in the pelvis of the kidney, may be found at any point along the course of the ureter or even in the bladder. The roentgenogram enlightens us on this subject.

The roentgen ray extends its field of usefulness in another direction in reference to renal calculus. I refer to that class of cases in which no renal crises occur, in which most of the diagnostic symptoms are wanting, but in which the attending physician feels a reasonable certainty that there is no stone, and yet he wants more light. Many a vague case of this sort has been made clear for the attending through the evidence of the shadows on the photographic plate.

*Read at meeting of Medical Association of Georgia, Columbus, Ga., 1916.

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I do not wish to be understood to claim that the roentgen ray gives us always a categorical yes or no to the question, "Is there a calculus?" There are certain kinds of calculi which throw practically no shadow, and if a small stone of such a variety is present it may escape detection. I have been unable to obtain figures as to the percentage of stones of pure uric acid, which are most translucent to the rays, but I believe the percentage is very small. It is assumed by some roentgenologists that **any** stone of a size large enough to point to surgical interference would be visible in a good roentgenogram.

Then, of course, there are many other sources of error which must be guarded against if one wishes to be sure of the interpretation of the plates. Calcareous mesenteric glands may, in some cases, so closely resemble renal calculi that it is only by the repeated examination of the patient that we are enabled to make a definite statement. It must always be borne in mind also that the affected kidney is very apt to be in some position other than the normal anatomical one, and a stone in such a displaced organ may be in a position so peculiar that we are easily led astray. Here it is of the utmost importance to be able to show the outline of the kidney, and so get the proper relationship of stone and kidney. There are cases on record in which foreign bodies in the digestive tract have so resembled the appearance and position of renal calculi as to cause error in diagnosis.

I wish to show you today some very ordinary slides of renal stone, illustrating some of the above mentioned conditions, and try to point out to you where the roentgen ray helped the surgeon to a better understanding of his case.

The first case is one of straightforward renal calculus which was referred to me by Dr. J. E. Wright. The stone is shown in the pelvis of the kidney, there being no other stones present. The patient had had typical kidney colic. The stone was found to be in a large sac of pus, the parenchyma was almost wholly destroyed, and the walls of the sac were as thin as cardboard. Here is a case in which the x-ray bore out in detail the other clinical findings.

This is a case in which there was, as diagnosed, a calculus in the pelvis of the kidney on the side to which the pain was referred.

But there were also found the small stones in the parenchyma which are seen in faint outline. The history of the case was a typical one, colic, hematuria, etc., and there was no doubt about the presence of a stone. The roentgen ray discovered the others which were found on operation.

This plate was taken of a patient sent me by Dr. J. C. Anderson. He had two attacks of colic closely following one another eighteen months before the plates were made. Since then he had had constant pain referred to both sides and loins, no other symptoms being noted. Here, again, we see the small stones in the parenchyma. This man refused operation.

This is a third case in which we found that there were stones in addition to that one in the pelvis of the kidney. This plate I show through the courtesy of Dr. C. C. Harrold. The patient was operated upon and diligent search was made for the small calculi, but without success. This only goes to prove that the chance of the surgeon removing these smaller concretions without the aid of an x-ray plate must be practically nil, if even with their position shown they may escape detection.

This plate was taken of a woman who gave a history of kidney colic for twelve years. Patient was referred to me by Dr. M. A. Clark. This is, I think, the largest stone I have seen. The examination showed us not only the stone which you see here, but one almost as large in the other kidney, the edge of which can be seen in the upper corner of the picture. Unfortunately I loaned the plate showing the other stone, and so can not show it to you. Here the question arose as to what the surgeon would decide as to which to remove first, or if either should be disturbed. I have not heard what was done, as the patient passed out of our reach.

This is taken of a case referred to me also by Dr. M. A. Clark. It was taken of a boy of 17 years of age who had given a history of some pain in the sides and back for a period of ten years. His parents put his trouble down to over-eating, and advocated exercise, etc. About one week before I saw him he had some typical colic pains, referred to the left side. I had great difficulty in making plates which would show the calculi, and came to the conclusion that they were largely composed of uric acid. We finally located

one small one in the left ureter about four inches below the kidney, and another in the pelvis of the right kidney. The one in the ureter undoubtedly passed to its position there during the last attack, and was in a position where it would hardly have been found without the aid of the plate.

The case shown here, referred to me by Dr. B. S. Gostin, exhibits a kidney displaced far below its normal site, with a stone in the sac of pus which is about twice the size of a normal kidney. The point of chief interest is, however, the fact that in the plate we were able to distinctly see a double ureter leading down from the pelvis of the kidney, both portions of it being filled with a thick pus.

I trust that I have been able to show by these few poor slides some of the points which I wished to emphasize, and that the future may prove our claims concerning the value of the roentgenogram in renal calculus to be well-founded.

INJUNCTION AGAINST TANLAC.

(From "The Way.")

The Louisiana Board of Health does things. Under the direction of President Oscar Dowling, whose campaigns for cleanliness and sanitation have been noted throughout the nation, an investigation has recently been made of Tanlac, a preparation of cheap wine and bitters which has been extensively advertised in Georgia. His report to the Louisiana Board last week resulted in that body immediately authorizing him to secure an injunction against the sale of Tanlac in Louisiana.

Dr. Dowling has also started an investigation of the coffee sold to Louisiana consumers. The average citizen, who has been accustomed to his "morning coffee" little realizes that in most cases he is drinking a mixture that has been adulterated until it is far from pure coffee.

The first week's investigation of New Orleans coffees showed only 11 out of 85 samples to contain the genuine article. The other 64 were compounds, mainly chicory and coffee, but sometimes of coffee and corn meal or coffee and grits, with some samples containing molasses. One of the samples was labeled as chicory and coffee, but extensively advertised as pure coffee. Sixty-four did not bear the weight prescribed by law.

THE CUTANEOUS MANIFESTATIONS OF SYPHILIS.*

By M. B. Hutchins, M.D., Atlanta, Ga.

Practically every elementary, primary and secondary type of skin lesion may occur in syphilis. There are, however, certain basic characteristics which, being kept in mind, will be of great help in establishing a diagnosis. One of these, to me, at least, is a certain "unclean" appearance, or nastiness, as if the patient were really filled with a noxious poison. This may be psychic on my part.

Further, it has seemed to me that patients with secondaries have a congestive appearance of the face even when no distinct lesions are present, a certain heaviness, a look of apathy.

All this may be imaginary and not generally demonstrable, but it is my own impression.

Objectively there is one characteristic of all syphilides, save perhaps that earliest flush of maculae and the deep gummata, that is the color. While red might be called the primary color, the shade is deep, so-called "ham," "copper," or with a tinge of purplish, with fawn to brown terminating the maculae and various shades to deep brown the others.

Pathologically, I understand every syphilitic lesion to be a granuloma, possibly excepting the earliest stage of the macule. This granulomatous tissue is not constructive, but tends to absorption or to destruction by ulceration. Any hyperplastic scars that may follow are due to defensive action of cells, as in other wounds or infections.

Syphilitic ulcerations occur first in the oldest, usually central part of the lesion, just as in cancer within the active periphery.

The purely macular syphilide is the earliest eruption, the "roseola," if it occurs at all. Its usual localization is the chest, abdomen, less on the sides and back, perhaps, the flexures of the arms and the groins (may be nearly universal), rarely on the face, on palms and soles not so rare. The maculopapular type may evolve from the former,

*Read at meeting of Medical Association of Georgia, Columbus, Ga., 1916.

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constituting the flat variety. Maculae run from flake of bran to nail size or larger, and if abundant and confluent may form a gross lacework. Color at first a light red, soon changing to a shade towards the deep ham tint. At first smooth, they may gradually become a little scaly. They fade through fawn color on to a slight stain, from blood pigment, and finally disappear, this occurring from one to several weeks and depending on the severity of the disease and activity of treatment.

A few drug eruptions and, chiefly, pityriasis rosea may have to be excluded in diagnosis, but a careful history and a composite of other symptoms of syphilis should clear up the diagnosis with the aid of "Wassermanns."

The papular syphilide is usually a later lesion, if it occurs, than the macular. Two types are described—the small, rather acuminate, and the large flattened form. Papular lesions have a preference for the face, especially forehead, about the eyes and mouth, though a diffuse facial involvement is not uncommon. The back, axillary regions and groins are said to be favorite sites, the scalp, palms and soles are often affected, as may be the legs.

The small papule is follicular, rounded, average shot size, with a central depression later marking the follicle. The large are rounded as a half hazelnut or oval as a split lima bean shape, first deep red, soon running into congestive or the typic color. As with many luetic lesions there is a tendency to grouping, corymbose figures or rings of papules. The ringform syphilide so common on the faces of negroes, though I have seen it on white people, is a ring or segment, or gyrate figures, small, firm, perhaps a little scaly, continuous or finely papular, never exudative nor itchy.

In this connection it should be stated that the color scheme of syphilis does not apply in negroes nor the varying breeds of mulattoes. On a black skin there may be a duskiness or dullness in the lesions. On a mulatto the typic color is modified by the shades of skin pigment. In all of African blood after-pigmentation is more marked.

Both types of papules are smooth, firm, involving the papillary layer of the skin, are not scaly, except, perhaps, on the palms and soles. Here they are deepest, under thick

epidermis, defined or confluent infiltrations, of typic color save for shading given by the epidermis. After so long a time the cuticle breaks, peeling back to the edges of the lesions, thus forming a collarette. Lesions elsewhere may peel back in a less marked degree. The pure papule disappears by absorption, leaving, save on palms and soles, an area or rim of brownish pigmentation. As in other lesions, the diagnosis is best made by the characteristic features and confirmatory symptoms.

The vesicular syphilide is a rarity, some authors questioning its existence. Is said to occur in the small form on top of a papule. The bullous lesion may appear on an extremely toxic case, but is a common type in the congenital disease, more usually about the digits.

The syphilitic pustule is a secondary infection of a papule's center, forming typical pus in an infiltrated cup. This lesion may bring in the question of smallpox, especially among negroes or other low individuals. Pustules finally dry into crusts, heal and leave more or less scarring with a pigmentary rim.

It may as well be said here that the after-pigmentations of syphilis usually disappear except below the knee, where they may persist indefinitely. Leukoderma syphilitica occurs chiefly on the sides and base of the neck of women. May appear without previous lesion, is a simple loss of pigment, from pea diameter to nail or larger. The color is a dirty white and there is an apparent increase of pigment around the maculae. Occasionally this type is preceded by thin flat papules. My impression is that these "white spots" belong in the group of "late secondaries."

The gummatous lesions are described as of two types, the cutaneous, so-called tubercular and the subcutaneous, and are classed as intermediate or tertiary, the deep gumma often occurring even many years after intra- or extra-uterine infections.

The tubercular type is a rather flat mass or infiltration, occupying the whole skin depth, in nail sized to large irregular areas from confluence of several single lesions. The multiple tubercles or nodes appear in

groups, rounded, or kidney or segment-shaped. These lesions are of still darker color, rather a dull red-brown. They may disappear by absorption or may ulcerate. In the latter event their development or broadening or confluence is usually in one direction, the ulceration following and healing coming behind, they constitute the serpiginous syphilide. The tubercular type is common on the scalp, forehead, face, about the elbows, on the legs—but may appear anywhere. Rupia is simple shell-like crusts in layers following widening ulcers.

The subcutaneous gumma is first a firm mass, rounded or oblong, the skin over it movable and of normal color. In the tongue they are submucous. Gradually, fusion with tissues above takes place, thinning, and finally a small hole forms, from which gummy, necrotic tissue may be expressed, leaving a cavity larger than its opening. These lesions are usually single and unilateral, and seem to occur in much the same regions as the other late formations. Palmar, late syphilides belong to the tubercular type, flattened by epidermic pressure, generally "one-sided," well-defined, firm, dull red, and with dry, hard epidermic scales and, at times, fissures. They do not itch. I have not seen a syphilitic ulcer of the palm or sole. Squamous syphilides are simply secondarily horny, scantily scaly, or epithelial crusted lesions. A witty Frenchman interspaced all stages of syphilis with mucous patches. They occur commonly on the mucous surface of the lips and at the oral angles, where mucocutaneous fissures are characteristic. The buccal lateral lingual, and tonsillar areas are often affected. Other moist regions also have them.

They are pin-head to nail size or larger, sodden, shriveled epidermis over, with a red rim; the lesion freed of cuticle shows a red erosion or denudation. There seems to be no infiltration. These syphilides are the most generally contagious of all in the production of non-venereal syphilis.

Condylomata should have been mentioned along with the papular, but they are a sort of cross between these and mucous patches, the

former the dominant. These lesions are sessile, broad, may be huge masses, occurring only in moist, warm and filthy regions, as genito-perineo-anal, inguinal sites, if close, sodden and unclean. They are excessively contagious.

Ornychia or Paronychia is simply syphilis of the nail bed or around and over the root of the nail, the usual granuloma, dull red, inflammatory, may ulcerate, and if effect is deep enough, cause permanent loss of nails, and all, both of fingers and toes—may be affected.

Early syphilitic alopecia is simply a toxic condition. The hair becomes dry, thins out, not in marked patches, but never to complete baldness, often a sort of rattiness or mangy appearance. This hair usually returns.

Irregular bald patches in later syphilis are due to destruction of skin tissue and hair papillae and are permanent.

Syphilitic scars, from absorption or ulceration, show more or less pigmentation, distinct at the edges. Scars are thin, papery, movable, and finally the majority are white, but those on the legs often remain dark.

I believe the kind of scar left by a chancre, especially of the penis or lip, is of great aid in diagnosis. This scar remains long as a firm, hyperplastic area; that of an *ulcus molle* is thin or slightly depressed and sharp-cut. In the diagnosis of skin syphilis it is best to investigate the history of symptoms and ignore the patient's opinions.

503-4, *The Grand*.

The United States Public Health Service believes that the common towel spreads trachoma, a disease of the eyes?

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**A REPORT OF TWO CASES OF TETANUS
TREATED WITH ANTI-TETANIC
SERUM AND MAGNESIUM SUL-
PHATE, WITH RECOVERY.***

By L. C. Fischer, M.D., Atlanta, Ga.

Having seen so little in literature in reference to the treatment of tetanus with magnesium sulphate in conjunction with anti-toxin, I wish to report the following:

On June 8, 1915, I was called by Dr. Howard Perkinson, of Marietta, Ga., to see a school boy of 14 years of age. He had been ill for practically ten days. A well-developed child, and the oldest of several children. Had had the usual diseases of childhood, but no serious illness. Family history negative.

The latter part of May, while playing, he jumped across a ditch and stuck a piece of wood in the planter surface of his left foot. This was removed by the patient with some difficulty. Dr. Perkinson was promptly called and dressed the wound, but did not see him again for practically ten days, when, on June 7th, he was called, there were slight symptoms of tetanus, which rapidly increased in severity. He was admitted to the Sanatorium the night of June 8th; temperature 100.2-5; pulse 108 respiration 22. Jaws were locked. He was able to open his mouth not more than one-half inch, anxious expression with a constant rigidity of the muscles in the neck, back and lower extremities, especially the left side. Had recurring tetanic convulsions, apparently suffering much pain. He was immediately carried to the operating room; the original wound in the foot opened freely and enureted. He had not voided for several hours previous to admittance, neither did he up to midnight, when he was catheterized, getting less than two ounces of urine. He was given at 2 o'clock in the morning 350 c.c. Fischer's solution. In the next twenty-four hours he voided 18 ounces of urine, after which there was no further trouble from his kidneys.

While in the operating room he was given subcutaneously 3000 units of anti-tetanic serum; there was a very marked reaction from

this, with nausea and vomiting, which lasted practically twenty-four hours. On June 9th, he was given 3000 units intravenously, reaction very pronounced, accompanied by nausea and vomiting and apparent increase of the severity of convulsions.

In the morning of June 10th, he was given 250 c.c. of 3% magnesium sulphate intravenously. At the time this was given his temperature was 101, pulse 100, respiration 26. In four hours afterwards, temperature was 98.2-5, pulse 80 and respiration 24. The first injection of anti-toxin, intravenously, was accompanied with hard chills, high fever and great pain, especially in his head. The child was extremely nervous and made the night hideous by the most piercing screams about every 15 minutes.

In the late afternoon of June 10th, he was given 250 c.c. of 3% solution of magnesium sulphate, which apparently quieted him very much, after a slight reaction. At 11 o'clock o'clock p. m., June 11th, temperature 98.4-5, pulse 98, respiration 20. With very severe convulsions. He was given 6000 units of anti-toxin intravenously; the reaction was again very pronounced. The following morning his temperature was 102, pulse 150, respiration 28. On June 12th, at 8 a. m., gave 250 c.c. of 3% solution of magnesium sulphate intravenously; at 6 p. m. temperature 99.4-5; pulse 102, respiration, 22; patient free from pain, with convulsions very much less severe, and the rigidity of the muscles not so pronounced.

On the afternoon of June 13th, he had a hard convulsion, at which time I gave him 3000 units of anti-toxin intraspinaly, after withdrawing a sufficient amount of spinal fluid. At the same time he was given 3000 units intravenously. At 9 p. m., temperature 101, pulse 120, respiration 26, with intense headache, nausea and vomiting which persisted for twenty-four hours. After this reaction he showed the first signs of real improvement. On the 14th, he again had convulsions, when he was given 250 c.c. of magnesium sulphate, 3% solution, with 5000 units of anti-toxin intravenously, and 3000 units intraspinaly. This was followed by less reaction, slight headache and nausea for a few hours. Improvement was rapid after this, and on June 16th, his temperature was normal, pulse 80, respiration 20. The last convulsion was on June 16th, following the

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administration of magnesium sulphate and serum. From this time he rapidly improved until he was dismissed from the Sanatorium well on June 28th.

Case Number Two.

On June 26th, was called by a fourth year medical student to see a young boy 16 years of age, the oldest of three children. His health had always been good, except the usual diseases of childhood. Family history negative.

On June 18th, while out camping, he stuck a rusty nail in his right foot. This was removed by his camping friends and the usual application of turpentine, etc., administered. The wound was infected and rapidly gave trouble. He was treated until the 26th by the student, who is a friend of the family. He cleansed the wound and kept dressings applied. First symptoms of tetanus June 25th; temperature 101; pulse 110; respiration 26, with rigidity of the muscles of the neck, jaws, back and right leg. On the morning of the 26th had the first hard convulsion, accompanied with opisthotonos. At 10:00 in the forenoon, when I saw him, he was given 3000 units of anti-toxin intravenously; 3000 units intraspinaly, and 250 c.c. of magnesium sulphate solution intravenously, given with the anti-toxin. At the time of administration his temperature was 102; pulse 120; respiration 26. Reaction was very slight. At 2 p. m., or four hours after administration, temperature 99; pulse 100; respiration 20; convulsions much milder. This condition continued for practically three hours. At 9 in the forenoon of the 28th, he again had hard convulsions, when he was given 4000 units anti-toxin intraspinaly; 4000 units intravenously with 250 c.c. of 3% solution of magnesium sulphate. Before administering this he was very much cyanosed, in a state of almost constant convulsions, nausea and vomiting, intense pain in the head, back and right leg especially. After the administration he showed marked improvement for forty-eight hours, when he again had convulsions. He was then given 4000 units of anti-toxin intraspinaly; 4000 units anti-toxin intravenously with 250 c.c. mag-

nesium sulphate and 1500 units anti-toxin into the foot around the original point of infection. There were slight convulsions this time. In forty-eight hours following this his temperature, pulse and respiration were normal. The usual sedatives and agents for the ease of pain were given. During the active stage of convulsions he was kept in a quiet dark room.

The special point of interest in these two cases is the difference in reaction from the anti-toxin when the magnesium sulphate was given combined with the anti-toxin. In the first case the magnesium sulphate, while having a slight reaction following its administration, showed a great tendency to produce a general relaxation with a lowering of the temperature, slowing of the heart's action and respiration. When given in conjunction with the anti-toxin it exerts the same influence, making the reaction much milder.

I have been especially impressed in the treatment of tetanus with the importance of first cleansing thoroughly the original wound of infection and keeping this thoroughly cleansed until healed.

In the treatment of tetanus heretofore some of my cases have gotten well with the administration only of anti-toxin and sedatives, but have not had a uniform satisfactory result as the cases referred to. I realize that two cases are not enough to establish a treatment, nor to show just what a remedial agent will do.

819-821 Hurt Bldg.

Children from sanitary homes advance more rapidly in school than those from dirty premises?

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PUERPERAL SEPTICAEMIA.***R. L. Rogers, M.D., Fairmont, Ga.**

In general septicaemia the local symptoms may also be present, but the condition is not limited to the pelvis; the infection is carried to all parts of the body. It originates from the retention within the uterus of some foreign material, or from infection from the hands of instruments of the physician or nurse; and such origin may always be assumed without hesitation. It develops usually within the first week of the puerperal state. If it originate from some part of the retained ovum, the manifestations of the poison are delayed longer than when the hands or instruments furnish the source.

Symptoms.

General puerperal septicaemia may be preceded by local symptoms, or the septic material may be carried so rapidly throughout the system that the local and general symptoms develop together, or even the general ones first. There is a chill, or a chilly feeling. The temperature rises quickly and runs a characteristically irregular course. Seldom does it rise gradually. The pulse is small and rapid, and there is considerable depression. The pain is not a prominent symptom, except in the early stage, when the local precedes the general symptoms. In a little while the patient becomes entirely quiet and has a restless feeling—due to a blunting of the sensibility of the nervous centers by the poison. The skin has a characteristic pale color, and is moist and clammy. The abdominal distension is very great on account of the laxity of the walls. The lochial discharge ceases. In the later stages of the disease stupor supervenes. Vaginal examination reveals the foul odor of decomposition.

The prognosis is decidedly unfavorable; most cases die.

Treatment.

The odor of decomposition indicates the first step. Even when the odor is not present, the existence of sepsis is to be assumed. The origin of the poison is always in the uterine cavity; therefore, to remove the cause, this cavity must be attacked. Only thus can ab-

sorption be stopped, and it is only by stopping absorption early that the patient can be saved. The womb must be thoroughly cleaned out with the fingers or the double curette; but the uterus must not be curetted. Such a process would be dangerous, even if the womb were washed out at once; for absorption at this period is the one great function of the uterus, and that function is performed with remarkable rapidity. To curette the womb would be to open new avenues for absorption. The double curette is simply a pair of artificial hands. All foreign particles must be removed, and the uterine cavity washed out thoroughly with 1:5000 bichloride solution.

When all this has been done only the first step in the treatment has been performed. Nature has absorbed the poison and is trying to throw it off by perspiration, diarrhoea and vomiting. Nature's example must be followed. The physician must give epsom salts—not for depletion, but for elimination; he must encourage diaphoresis by drugs, hot baths, etc.; he must also stimulate the kidneys to increased action by giving diuretics, such as acetate and nitrate of potash, etc.; however, he must not encourage elimination by vomiting. It is too depressing and the good results are too insignificant in amount. There is no way to neutralize the poison in the blood and tissues. The phagocytes alone must be relied upon to conquer it. But while nature is aided thus, the patient must be stimulated. Strychnine is to be preferred to alcohol. It may be given in enormous doses—one-thirtieth grain every one, two or three hours. A woman may even take one grain daily for several successive days; a remarkable tolerance is, therefore, established. The nourishment must make the least possible demand on the digestive organs. Liquid diet, chicken and meat broths, beef tea, panopeptone, etc., are to be relied upon. Milk is practically solid food, but clinically it gives good results.

If all the above measures do not save the patient, nothing more can be done. Since the condition is produced by absorption, and absorption will not stop spontaneously, early treatment is imperative. As soon as the temperature rises the patient must be given the benefit of any doubt that may exist, and the womb examined. Frequently a temperature of 102-3 may fall while the uterus is being

* Read at Meeting Seventh District Medical Society

washed out; but often in one or two hours it will rise again; this shows that the washing was not complete. The uterus must be washed again—even every three or four hours for forty-eight hours, or as long as necessary to control the temperature permanently. Continuous irrigation is now practiced by some physicians, the latest solution used being alcohol. It would probably not be advisable to use a continuous stream of bichloride solution, but boric acid is to be preferred if any be used in this way. It is very difficult to carry out such treatment unless a trained nurse or a physician be in constant attendance; it is usually, in fact, impracticable.

The lymphatic glands of the pelvis, especially those in the broad ligament, will have become involved, and absorption will go on from them. If so, the fever and other symptoms will continue in lessened form, and puzzle the physician. Such a condition need not cause fear, but its possibility should be remembered. The eliminative and supportive treatment is to be continued. It is seen that the treatment of septicaemia falls under four heads: (1) Removal of the cause; (2) elimination; (3) stimulation; (4) nutrition.

The peritonitis in these cases differs from the ordinary general peritonitis in that opening the abdomen and washing it out will not control the process. This because the peritonitis is a part only of the general infection. No operation is advisable; it would be an unwonted draught on the already diminished strength of the patient.

THE BROTHERHOOD OF PHYSICIANS.*

By Dr. J. L. Weddington, Dublin, Ga.

Health and disease are physical conditions upon which pleasure and pain, success and failure, depend. Every individual gain increases the public gain. Upon the health of its people is based the prosperity of the nation; by it, every value is increased, every joy enhanced. Life is incomplete without the enjoyment of healthy organs and faculties, for these give rise to the delightful sensations of existence. Health is essential to the accomplishment of every purpose; while sick-

ness thwarts the best intentions and loftiest aims.

As physicians we are continually deciding upon those conditions which are either the source of joy and happiness or which occasion pain and disease. Prudence requires that we should meet the foes and obviate the dangers which threaten us, by turning all our philosophy, all our science and all our arts into practical common sense.

The profession of medicine is no sinecure; its labors are constant; its toils unrelenting; its cares unceasing. The physician is expected to meet the grim monster, "Break the jaws of death and pluck the spoils out of his teeth." His ear is ever attentive to entreaty, and within his faithful breast are concealed the disclosures of the suffering. Success may elate him, as conquest flushes the victor. Honors are lavished upon the brave soldiers who, in the struggle with the foe, have covered themselves with glory and returned victorious from the field of battle; but how much more brilliant is the achievement of those who overcome disease, that common enemy of mankind, whose victims are numbered by the millions!

Unto us are committed important health trusts, which we hold, not merely in our own behalf, but for the benefit of others. If we discharge the obligations of our trusteeship, we shall enjoy present strength, usefulness and length of days; but if we fail in their performance, then inefficiency, incapacity and sickness will follow, the sequel of which is pain and death. Let us, then, prove worthy of this generous commission, that we may enjoy the sweetest of all pleasures, the delicious fruitage of honest toil and faithful obedience.

I have turned aside from the "beaten path" of technical discussion to express briefly a few sentiments that are essential to an ideal brotherhood of physicians and an ideal medical society.

One of the most potent essentials to a complete brotherhood of physicians is kindness; more especially kindness toward each other. Give no pain to your brother physician. Breathe not a sentiment, say not a word, give not the expression of the countenance that will offend him, or send a thrill of pain to his bosom. We are surrounded by sensitive hearts, which a word or look even, might fill to the brim with sorrow. If you are careless of the opinions of others,

* Read at the April Meeting of Laurens County Medical Society

remember that they are differently constituted from yourself. Hard words are like hail stones in summer, beating down and destroying what they would nourish if they were melted into drops.

A second virtue which the physician should cultivate is integrity. Integrity should govern us in the performance of our duties, in our relations toward each other and in the maintenance of strict regard for a scale of fees. There is just as much integrity in keeping the price and standard of our services as in the actual performance of our duties. We are all engaged in the same great work and we have the right to make a standard for our services and maintain it to the last penny. Let us, therefore, keep our standard.

Few objects are richer for the contemplation of a high-minded man than a physician who lives, acts, speaks and exerts his power from an enlightened conviction of duty. Though he may be gentle as the lamb, or retiring and modest in his demeanor, there is in him what commands respect, what enforces esteem. Such physicians are the strong physicians. The sun is not truer to his course than they to theirs. They are reliable as the everlasting rocks. Men look to them with a confidence that knows no doubt. There is no bravado in them; it is the simple power of integrity. They are true to what to them seems right. We know them by their lives. Their courtesy abroad is their politeness at home. Such are the physicians of integrity. Men love to confide in them. Confidence can only be secured by integrity. The physician with a high sense of duty will always secure confidence, and having this, he will secure respect, honor and influence.

I shall mention lastly one other virtue we should cultivate in the brotherhood of physicians—that of benevolence. One of the old doctors bid his pupils to consider what was the best thing to possess. One came and said that there was nothing better than a good eye, which is, in their language, a liberal and contented disposition. Another said a good companion is the best thing in the world. A third said a good neighbor was the best thing he could desire; and the fourth preferred a man that could foresee things to come. But at last came in one Eleazer, and he said a benevolent heart was better than them all. "True," said the old doctor, "thou hast comprehended in two words all

that the rest have said; for he that hath a benevolent heart will be both contented, and a good companion, and a good neighbor."

We do most for ourselves when we do most for others. Good deeds double in the doing and the larger half comes back to the doer. A large heart of charity is a noble thing, and in no heart is benevolence more beautiful than in a physician's. In no heart is selfishness more ugly. The poor and needy should occupy a large place in their hearts. The sick and suffering should move upon their sympathies.

How blessed is a physician on errands of mercy! How sweet are his soothing words to the disconsolate! How fresh his spirit of hope to the discouraged! How soft his hand to the sick!

I trust that the Society to which I have honor to belong and of whose personnel I feel proud, will pardon this digression and change of the usual order of things as I have paused amid the busy scenes of our lives to pay a just tribute to the brotherhood of physicians.

Gainesville, Ga., Sept. 28, 1916.

The Ninth District Medical Society met in Winder September 20th, with a good attendance. Dr. J. G. Dean was present and addressed the Society and added much to the enjoyment of the occasion. Dr. George M. Niles, of Atlanta, was also present and gave an illustrated lecture on "The Early Diagnosis of Gastro-Intestinal Lesions," which was highly instructive. He showed the powerful aid of the X-ray in the diagnosis of many obscure gastro-intestinal lesions.

Dr. J. C. Bennett, of Jefferson, presented a paper on the subject, "Some Things in General in the Practice of Medicine," which he termed a Medical Hodge-Podge. It was filled with good suggestions on many issues that confront our profession.

Dr. O. D. Hall, of Buford, reported some cases of cancer treated with radium. Patients were present and photos before and after treatment were shown. The results in his cases have been highly pleasing.

"Scattered Points From Experience" was the subject of Dr. L. J. Sharp of Commerce, and was a paper of rare value; giving the author's practical methods of the diagnosis and treatment in many cases in what we term

Common Ailments. The discussion on these subjects was full and free, and was participated in by a large number present.

The Winder physicians and ladies of the city were worthy hosts. A dinner was served that was sumptuous, and many of the guests were "too full for utterance" at the afternoon session. The ladies and citizens of the city added much to the enjoyment of the occasion.

The next meeting of the Society will be held in Gainesville the third Wednesday in March, 1917. This Society was organized in March, 1909, and has never failed to hold its meetings at regular times. The attendance is steadily growing, and the interest is deep and abiding. The officers are: President, Dr. L. C. Allen, Hoschton; vice-president; Dr. W. P. Hardman, Commerce; secretary and treasurer, Dr. A. D. White, Gainesville.

MAKING THE MOST OF WHAT WE HAVE.

(From the Tifton Gazette, October 11, 1916.)

Yesterday The Gazette published a bulletin issued by the State Board of Health in which the statement was made that for lack of funds the Board is unable to meet the demand for diphtheria anti-toxin, and as a consequence there will be suffering and perhaps death among people not able to pay the high prices charged for this anti-toxin by dealers.

Certainly, the Georgia State Board of Health should receive more liberal treatment at the hands of the State's General Assembly; the great work of conserving life is one on which neither price nor limit can be set. But perhaps some excuse can be made for dereliction on the part of the legislators because of the impression in many quarters that the funds appropriated are not duly conserved.

In this one matter of diphtheria anti-toxin, there is a case in point. For the following figures we are indebted to "A Survey of State Boards of Health," by Charles V. Chapin, M.D., and published under the direction of the Council on Health and Public Instruction of the American Medical Association. The figures given for Georgia are for the year 1913, those apparently being the latest available:

Georgia manufactured her anti-toxin at a cost of 52 1-5 cents per 1,000 units. New York manufactures her supply at a cost of 22 cents per 1,000 units. But as New York uses about seventy-six million and Georgia only about thirteen million units, comparison would hardly be just. But Kansas buys her anti-toxin at a cost of 40 cents per 1,000 units and South Carolina buys hers at a cost of 41 7-10 cents, compared to a cost to manufacture in Georgia of 52 1-5 cents.

Georgia has been paying for her anti-toxin supply about \$1,300 a year more than the states of Kansas and South Carolina pay for a similar amount. This during the eight years the anti-toxin has been manufactured would aggregate about \$10,000 or more—sufficient to provide a supply of anti-toxin for this time of need, were the sum to hand. Perhaps the cost to manufacture, while more more than twice that of New York state, is a minimum under existing conditions; but if the supply can be bought at such a great saving, why not buy it?

Perhaps it is instances like these that account for the fact that while Georgia ranks 21 in amount of appropriation received, it ranks 38 in per capita amount of money expended in health work. All the more reason to conserve what small appropriation we have.

While Georgia's appropriation for health work is 1.21 cents per capita, she is only rated 156 out of a possible 1,000 in health work. This includes credits for the tubercular collection at Atlanta, the expenditure of \$1,000,000 for the Georgia State Hospital, and \$1,000,000 for the Georgia State Prison. The Georgia State Board of Health has received \$1,000,000 from the State of Georgia and we have left only a pittance of \$1,000,000.

Compare this with Washington state which ranks 262 on an expenditure of 1.08; Missouri which ranks 152 on an expenditure of only .86; or Mississippi, which ranks 297 on a per capita expenditure of 1.20—twice Georgia's rating, on a smaller investment.

Georgia's Board of Health should have more liberal appropriations. Perhaps when these things are explained away, it will be easier to secure them.

The United States Public Health Service co-operates with state and local authorities to improve rural sanitation?

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EXCLUSIVE PUBLICATION: Articles are accepted for publication on condition that they are contributed solely to this journal.

CONTRIBUTIONS TYPEWRITTEN: Authors should have their contributions typewritten—double space and with ample margin—before submitting them. The expense is small to the author—the satisfaction is great to the editor and printer. We cannot promise to return unused manuscript, but try to do so in every instance. Manuscript should not be rolled or folded.

ANONYMOUS CONTRIBUTIONS, whether for publication, for information, or in the way of criticism, are consigned to the wastebasket unread.

NEWS: Our readers are requested to send us items of news of a medical nature, also marked copies of local newspapers containing matters of interest to physicians. We shall be glad to know the name of the sender in every instance.

THAT ATLANTA MEETING.

November 13-16.

Atlanta will be the medical Mecca in November when some 2,000 physicians from sixteen Southern States will make a pilgrimage to attend the Tenth Annual Meeting of the Southern Medical Association. Won't you join the caravan?

Clinics.

The leading feature of the Atlanta meeting will be the clinics, an innovation in medical societies. Every morning from 8 to 10 o'clock in all the various branches of medicine and surgery, clinics will be conducted by visiting clinicians from the sixteen Southern States. The lecture rooms and amphitheatres of the Atlanta Medical College and Grady Hospital, will comfortably seat more than 2,000, and are within three blocks of the Auditorium, where the section meetings will be held.

On Friday and Saturday following the meeting, clinics will be held all day by the Atlanta physicians.

The clinics alone will be well worth the cost of the trip to Atlanta.

Scientific Sections.

The programs for the Section on Medicine, Section on Surgery, Section on Eye, Ear, Nose and Throat, Section on Public Health, and for the Southern States Association of Railway Surgeons are practically complete, and indicate that these meetings will be even better, if that be possible, than those of previous years. Five stenographers have been employed to report the discussions, which with the papers read at the meeting, will be published in the Association's Journal that is acknowledged to be one of the few great periodicals of this country.

Entertainment.

Atlanta is noted for its hospitality. A big "Georgia Barbecue" at Stone Mountain, one of the great wonders of Nature, has been planned for Wednesday, November 15th. Other plans not yet perfected include further entertainments. The Association had to ask Atlanta please to curtail its entertainment—they wanted to do too much.

It is the policy of the Southern Medical Association not to allow entertainments to interfere with its scientific sessions.

Ladies.

Many physicians have made it a rule to bring their wives and daughters to these meetings. Special entertainment is being provided for them. It is proposed to have meetings for ladies with talks by noted public health authorities—a Woman's Health Conference that will spread the gospel of sanitation throughout the South.

Alumni Reunions.

Always a feature, the alumni reunions this year are receiving special attention. This offers an excellent opportunity to meet old friends and classmates.

Hotels and Meeting Places.

Atlanta is noted for its splendid hotels and every visitor may be assured of comfortable accommodations at reasonable prices.

All the general and section meetings, as well as the scientific and commercial exhibits, will be held under one roof—that great Auditorium-Armory of which Atlanta is so justly proud. It is accessible to all the hotels.

Railroad Rates.

All railroads east of the Mississippi River have already granted reduced fares, and it is expected that the western railroads will do the same.

THE MEDICAL EDITOR.

The editor of the Texas State Medical Journal writes a delightful little paragraph commenting upon the appearance of the Nebraska State Medical Journal. Our Texas friend senses the situation exactly. The editor is "blanked if he does and blanked if he doesn't." No small part of a medical editor's job lies in grinding a wide assortment of articles into a semblance of unity and scientific worth.

Nebraska Establishes a State Medical Journal.

The first issue of the Nebraska State Medical Journal appeared July 15, 1916. Nebraska is the 34th state to establish an official organ of publication. These Journals are never infants. Like the dragon's teeth the moment the idea falls upon state soil it springs up an armed man. It begins at once its fight on nostrums and quacks, makes a thrust at low grade medical education, raises its shield for medical defense and its voice to secure better medical laws, arouses greater professional activity and becomes a champion of public health. Nebraska has a population of a little over a million with about 2,000 doctors, of whom about half are in county societies.

The editor and business manager of the new Journal are named Cutter and Aikin. It sounds propitious. They now can figure on how to print a thousand dollars' worth of matter for five hundred a month. Dr. Cutter can carve a wandering, worthless paper into a concise, scientific article and secure the lifelong enmity of the author. He can print some scholarly editorials and some one will write for less of that "high-brow" stuff and more practical articles on how to treat biliousness, congestion and malaria. He can now refuse to publish full page photographs of aspirants for office and get on their official "eat-gut" list. Oh, the medical editor's life is usually a short but a merry one!

The Nebraska Journal is a fine piece of printing, its advertising is clean and conforms to A. M. A. standards; it contains good English and breathes a helpful, constructive spirit. Brother, we wish you long life and prosperity.—Texas State Medical Journal, September, 1916.

Dear Sir:

The Georgia Society of the City of New York desires to make a complete list of all Georgians residing in this city, and the best plan to follow would seem to be to go back to each town in Georgia and try to obtain the names and addresses of the former residents of those cities who now reside in New York. Therefore, if you will be kind enough to insert in your paper the following notice, our Society will gratefully appreciate your courtesy:

Notice—The Georgia Society of the City of New York desires information regarding the names and addresses of all Georgians at present residing in New York City. If the readers of this paper will forward such information as they have to Powell Crichton, Secretary of Georgia Society, at No. 120 Broadway, New York City, the information will be used for the purpose of making a complete list as well as to add to the membership of the Society.

If you have any suggestions to make in the way of improving this notice, do not hesitate to do so. Further, if you have any plans of obtaining this list for me of the former residents of your county who now live in New York City, you will be doing the Georgia Society a great favor. It is desired to make our Society representative and you will note from the above heading the list of the officers and agree with me that we are accomplishing our purpose. Very respectfully,

POWELL CRICHTON,

Secretary.

Intelligent motherhood conserves the nation's best crop?

The registration of sickness is even more important than the registration of deaths?

Neglected adenoids and defective teeth in childhood menace adult health?

A low infant mortality rate indicates high community intelligence?

Heavy eating, like heavy drinking, shortens life?

The next examination for appointment in the Medical Corps of the Navy will be held on or about October 23, 1916, at Washington, D. C., Boston, Mass., New York, N. Y., Philadelphia, Pa., Norfolk, Va., Charleston, S. C., Great Lakes (Chicago), Ill., Mare Island, Cal., and Puget Sound, Wash.

Applicants must be citizens of the United States and must submit satisfactory evidence of preliminary education and medical education.

The first stage of the examination is for appointment as assistant surgeon in the Medical Reserve Corps, and embraces the following subjects: (a) anatomy, (b) physiology, (c) *materia medica* and therapeutics, (d) general medicine, (e) general surgery, (f) obstetrics.

The successful candidate then attends the course of instruction at the Naval Medical School. During this course he receives a salary of \$2,000 per annum, with allowances for quarters, heat and light, and at the end of the course, if he successfully passes an examination in the subjects taught in the school, he is commissioned an assistant surgeon in the Navy to fill a vacancy.

Full information with regard to the physical and professional examinations, with instructions how to submit formal application, may be obtained by addressing the Surgeon-General of the Navy, Navy Department, Washington, D. C.

The foregoing information is furnished, as it is believed that it is of interest to you, and that you will want to give it some notice in your Journal. Very truly yours,

W. C. BRAISTED,
Surgeon-General, U. S. Navy.

The New York State Civil Service Commission calls attention to the opportunities offered to qualified physicians for appointment to positions in the medical service in state hospitals, prisons and charitable institutions.

Although the salaries offered seem to afford adequate compensation the number passing the examinations has not been sufficient to meet the needs of the service. An examination was recently held for prison physician, salary \$2,000, but the number of competitors was very small and no one pass-

ed the examination. An examination for assistant physician in the prisons, salary \$1,500, held at the same time produced only two eligibles. An examination for assistant physician in the state hospitals held January 22, 1916, produced eighteen eligibles, but the list was practically exhausted before July 1st. Another examination was held July 15th, but only eleven competitors were secured.

This position carries an initial salary of \$1,200 with maintenance including quarters, board, laundry, etc., and the salary is automatically increased \$100 a year until \$1,600 is reached, when opportunity is offered for promotion to the next higher grade, senior assistant physician at \$1,800 and maintenance.

The State Hospital Service really offers a career, as there is a regular line of promotion for the medical staff from assistant physician to the position of superintendent.

Any one interested in these examinations should write to the "State Civil Service Commission, Albany, N. Y." for information.

CLEAN HANDS.

Disease germs lead a hand-to-mouth existence. If the human race would learn to keep the unwashed hand away from the mouth many human diseases would be greatly diminished. We handle infectious matter the germs of disease may in this way be introduced into the body. Many persons wet their fingers with saliva before counting money, turning the pages of a book, or performing similar acts. In this case the process is reversed, the infection being carried to the object handled, there to await carriage to the mouth of some other careless person. In view of these facts the United States Public Health Service has formulated the following simple rules of personal hygiene and recommends their adoption by every person in the United States:

WASH THE HANDS IMMEDIATELY

Before eating,

Before handling, preparing or serving food,

After using the toilet,

After attending the sick, and

After handling anything dirty.

Which Mineral Oil is Best for Medical and Surgical Use ?

1. That oil which is free from paraffin and all toxic, irritating or otherwise undesirable elements, such as anthracene, phenanthrene, chrysene, phenols, oxidized acid and basic bodies, organic sulphur compounds and foreign inorganic matter; because an oil of such purity will pass through the gastro-intestinal tract without causing irritation or other untoward effects.
2. That oil which possesses the highest natural viscosity, with the highest specific gravity, because such an oil will pass through the intestine more slowly than a lighter and thinner oil and lubricate the walls of the gut more completely, and soften faeces more effectually, and is not likely to produce dribbling.
3. That oil which is really colorless, odorless and tasteless, because palatability favors persistence in treatment.

The oil which meets all these requirements is

Liquid Petrolatum, Squibb (Heavy Californian)

It is a pure, colorless, odorless and tasteless **Mineral Oil**, specially refined under our control only by the *Standard Oil Company of California* which has no connection with any other Standard Oil Company. This oil has the very high specific gravity of 0.886 to 0.892 at 15°C. (or 0.881 to 0.887 at 25°C.) and has also an exceptionally high natural viscosity. It is sold solely under the Squibb label and guaranty and may be had at all leading drug stores.

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1866
1916

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OUR house will celebrate its fiftieth birthday on the Twenty-sixth of October. This is therefore the year of our Golden Jubilee.

At such a time it is fitting that we should recognize in a public manner one of the fundamental causes of our success. This is found in the confidence bestowed upon us for fifty years by those whom we have sought to serve. Without their support we could have done nothing. Lacking their co-operation we should long since have ceased to exist.

Our appreciation of this truth is profound and heartfelt. We acknowledge our indebtedness with gratitude, and during the second half century of our existence we shall strive in every way to be worthy of the trust reposed in us by the medical and pharmaceutical professions of the world.

PARKE, DAVIS & Co.

October 1, 1916.

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THE JOURNAL

OF THE

Medical Association of Georgia



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VOL. VI.

AUGUSTA, GA., NOVEMBER, 1916

No. 7

Stelwagon on the Skin JUST OUT New (8th) Edition

For this edition Dr. Stelwagon has given his book a most searching revision, adding much new matter. There are two features in Dr. Stelwagon's work that stand out above all others: The special emphasis given *diagnosis* and *treatment*, and the *wealth of illustrations*. These latter teach you diagnosis as no description can. Over 75 pages are devoted to *syphilis* alone. *Pellagra*, tropical affections, *hookworm disease*—all those diseases being so widely discussed today.

Octavo of 1307 pages, 331 text-cuts, 33 plates. By HENRY W. STELWAGON, M.D., Professor of Dermatology in Jefferson Medical College, Philadelphia.

Schamberg's Skin and Eruptive Fevers NEW (34) EDITION

Dr. Schamberg has given his work a most thorough revision. The various prescriptions and the doses of drugs are now given in the metric system as well as the troy system. The value and interpretation of the huetin test in syphilis has been added, the chapter on the treatment of syphilis has been rewritten, the discussion of the mild type of smallpox has been considerably amplified, and a chapter on Rocky Mountain spotted fever added.

Octavo of 585 pages, illustrated. By JAY F. SCHAMBERG, M.D., Professor of Dermatology and the Infectious Eruptive Diseases, Philadelphia Polyclinic. Cloth, \$3.00 net.

W. B. SAUNDERS COMPANY, Philadelphia and London

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THE JOURNAL

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CANCER OF THE BREAST.*

By L. C. Fischer, M.D., Atlanta, Ga.

While cancer is one of the most thoroughly investigated of the many pathological conditions, one of the most written about and discussed, it is the one condition that there is the least known, of a satisfactory cause, for its existence. Cancer of the breast, which I shall discuss, does not confine itself to any age or sex. In a recent report from the Mayo Clinics, in 609 cases, 607 were females, and 2 males. It is not confined to women in any station in life, or to any class of society, while it is affected to a certain extent by marital relations, it is not confined to parous women. I have operated upon six cases, removing, in two instances, both breasts, from unmarried women ranging from 35 to 60 years of age.

The cause of cancer. Is it on the increase? What percentage of cancers recur after op-

erations? Is cancer curable? Are the most absorbing questions in connection with this work. The first, a most unsatisfactory answer, to say the least; one that is not solved. However, the cause of cancer is not to me the most important phase of this condition. Indeed, it fades into insignificance when related to the patient's welfare. To us it is the most important, in that, should the true cause be discovered, the pathologist may be able to make a serum, or find some remedial agent that will assist us in its definite cure. With the great number of investigators who have, and who are constantly at work, laboring over the cause of cancer, there is at present nothing positive enough for us to change to any great extent, any definition we may have had for years. One of the most satisfactory, by Dr. John B. Murphy, "A growth springing from the tissues of an individual, composed of cells, derived from the normal pre-existing cells, which have, however, been so changed as to make them cancer cells." This stands today without any appreciable modification.

Much work has been done upon rats, mice, chickens, etc., but nothing definite enough

*Read at meeting of Medical Association of Georgia, Columbus, Ga., 1916.

Authors desiring reprints must notify Phoenix Printing Company, Augusta, Ga., within 15 days after publication. Prices of reprints published in this issue.



Plate 2

Showing a very prominent tumor above and to the inner side of the nipple with the involvement of the axillary glands. This young woman, 36 years of age, was pregnant four months at time operated. Tumor had existed for a year, had grown much more rapidly since pregnancy. This case has recurred after 10 months, and has had secondary operation with grave doubt in my mind as to any permanent relief.

on human kind to lead us to believe that there is any positive cause yet discovered. In fact, the primary object of cancer research is to investigate not so much the cause of the malignant growth, but the means whereby humanity may be protected against this awful scourge.

A few months ago I sent to some of the leading surgeons and clinicians in the United States the following questions: First, is cancer on the increase? Second, what percentage of cancer of the breast recur in your clinic? Third, what percentage of patients die as a result of primary operations?

Dr. John B. Deaver, of Philadelphia, replies: "First, I cannot answer this; I think we are able to detect early carcinoma which may lead one to think it is increasing." No answer to the second question; to the third, "None."

Dr. Wm. L. Rodman, Philadelphia, recently deceased, who was one of the foremost investigators in cancer, and especially its cure,



Plate 3

Showing the incorrect method of examining the breast for nodules. The average woman's breast, held as above, will seem irregular and give the appearance of nodules or a cystic condition

answers: First, "Yes"; second, "28%"; third, "Practically none. One death in about 500 operations."

Dr. Joseph C. Bloodgood, of Baltimore: "First, the majority of statisticians are of the opinion that cancer is on the increase. In our figures here in Baltimore, the fully developed hopeless cancer is apparently slightly on the decrease, while benign tumors of the breast, adeno-carcinoma, and early cancer, are increasing in proportion to the fully developed and hopeless cancer of the breast. Second. The percentage of cures in operable cancer of the breast were about 35% up until 1908. Between 1908 and 1913, the percentage in five years of cures has increased to 42%. In those cases not cured, the percentage of local recurrence was about 10%. Third. The mortality of the Halstead operation has been very low. When we last worked it out it was less than one-half of 1%. At the present time I think it is lower than that."

Dr. Robert T. Morris: "First, statistics appear to indicate that cancer is distinctly increasing in frequency. Second. I have no means for knowing about the percentage of recurrence of cancer of the breast. Neither



Plate 4

Showing the correct method of examining the breast, catching the gland under the palm of the hand, rolling it gently against the chest wall, will locate, as a rule, the smallest nodule.

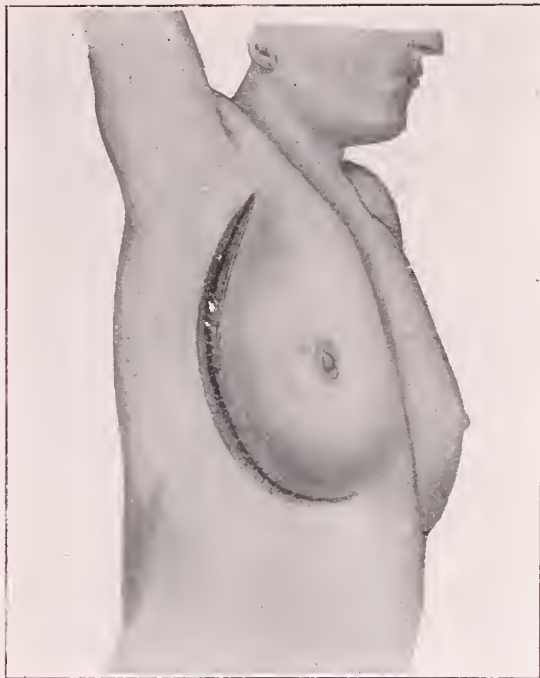


Plate 5

Primary incision to turn the breast up for removal of a specimen. Note the nodule on the outer surface just below the nipple.

clinic patients or private patients are sure to return to the original operator, although I ask them all to do so upon noting the first signs of recurrence. Recurrence would depend very largely upon three particular influences: (a) the cellular type in a concrete case; (b) the extent of distal invasion of tissues; (c) the degree of resistance of individual patient. The resistance may be natural or acquired through particular effort on the part of the physician. Third. I have never lost a patient as a result of primary operation for cancer of the breast. This means many hundred cases. We have a particular safeguard in cancer cases, due to the fact that the presence of the disease calls out a hyper-leukocytosis. This hyper-leukocytosis serves to guard against various infections immediately after operation."

Dr. Stewart McGuire, of Richmond, Va., says: "First, in my opinion, yes. Second. About 50%, but I accept many bad cases. Third. Have had no death."

Dr. A. J. Ochsner, of Chicago: "First, I think cancer is not actually on the increase, but many cases that were formerly overlooked are now diagnosed. Second. Approximately 60%. Third. Less than 2%."

Dr. H. A. Kelly: "First. Cancer is undoubtedly on the increase, if we estimate long periods. Second. So much of my work here is done with radium that I cannot give a clear answer. Third. I do not remember any patients having died after operation of cancer of the breast, but I will give a rough estimate of not more than 1% of deaths in careful hands."

From the Mayo Clinic I received some reprints giving the statistics of their work as reported by various members of their staff, most important of which are by Judd and Sistrunk, showing that cancer is on the increase; that 52.4% of cancer are living after five years; that they have a recurrence of 47.6%.

Judd, in Mayo's Clinic, has recently reported 929 cases of chronic cystic mastitis and cancer, 711 of which were cancer, 218 were cystic mastitis. On 211 of these the conservative operation was done, and 7 cases in doubtful malignancy radical operation was performed. He does not report what percentage of these cases recurred. Blood-good reports that chronic cystic mastitis is undoubtedly on the increase, as is adenocarcinoma. He is tabulating 1,577 cases from 1910 to 1913 who are seeking advice much

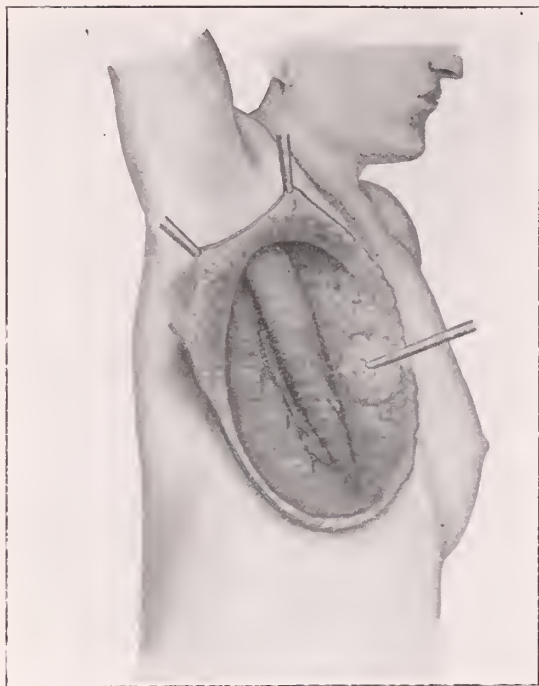


Plate 6

Showing the method of turning the breast up through an incision as described and removing specimen, the nodule being held by forceps.

earlier than years ago, this accounting for increase of benign cases reported. He stresses the fact that women are being warned by public education; that as soon as a pain appears in the breast, eczema on the nipple, a dimpling of the skin, the presence

of lumps in the axilla or a discharge from the nipple, she should at once seek advice.

Whether there is an actual increase in the lesions of the breast, especially malignancy, is in doubt in the minds of most men. It is certain, however, that a great many more operations are being done and permanent cures made, than at any period heretofore. The various surgeons who have replied to my questions, are all of the opinion that cancer is on the increase. The statistical reports from that portion of the United States keeping statistics, which is approximately 60% of the population, shows that cancer is undoubtedly on the increase. Dr. Taylor, in his excellent book on cancer, gives statistics for England and the United States showing cancer of the breast has increased from 1876 to 1900 as high as 115% to 179%. In England, in 1840, there was recorded one death from cancer in 129 deaths from all causes. In 1913 the proportion had risen to one death from cancer in 13 deaths. In the United States, in 1910, there was recorded 1 death from cancer in every 18 deaths from all causes. In 1912 those dying under 30 years of age, 1 cancer in 11.5%. In the cancer age, from 40 to 60, in in every 10.5%.

Joseph C. Bloodgood, in a recent paper entitled, "What every one should know about cancer," states: In 1913 in the registered area of the United States 75,000 people died of cancer. As the registered areas only included about 60% of the population, the



Plate 7

Showing the incision, as healed, after removal of nodule of cyst from the under surface of the breast.

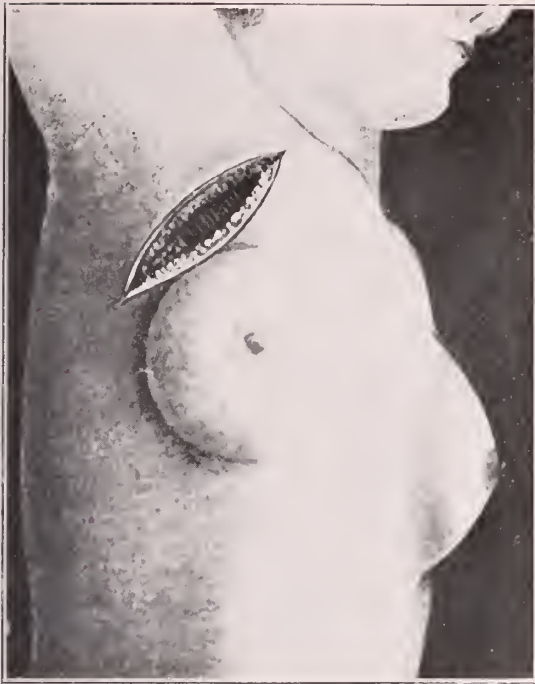


Plate 8

Showing the primary incision exposing the pectoralis major muscle.

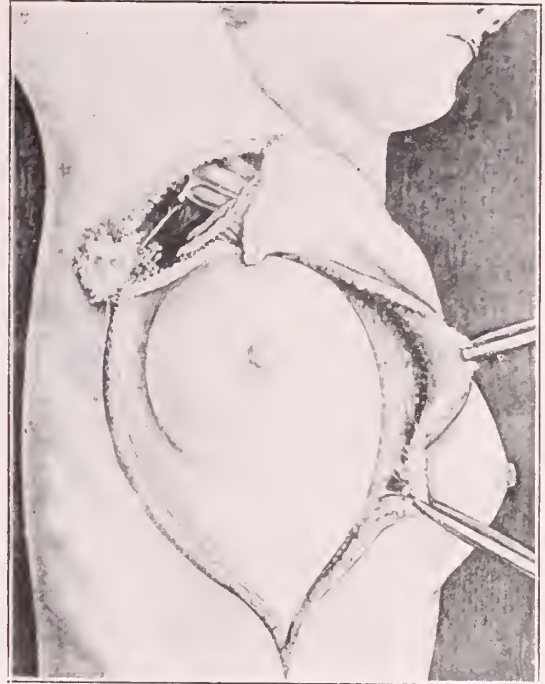


Plate 12

Showing second incision after the parallel incision is made and the axilla is dissected out. Showing the method of dissecting the skin entirely free from fat and fascia.

number of deaths from cancer in the total area of the United States would be more than 100,000 in the year of 1913.

Wertheim states that cancer has increased 20% in the last 30 years. Whether this is an actual increase, or an increase of the number of patients seen in the University Hospital at Vienna, where they have 5,500 beds for patients, there is some doubt.

Cofor states that in his experience there is an increase of from 10 to 20% in malignancy in the last 20 years. As to whether cancer is actually on the increase, or whether it is that so much investigation has, to some extent, educated the people to where they are applying earlier for treatment, is a question in his mind. Certain it is, he states, that those of us who have investigated the matter thoroughly know that a great many more patients are operated upon now than previously. In Britain, in 1910, there was 81.3 in 100,000 deaths from cancer in native-born inhabitants over 35 years of age, 590 per 100,000. This death rate per 100,000 population is according to the international list of registration, from 1901 to 1913. The total deaths from cancer in the registered area in the United States in 1905, 22,214; 1910, 41,039; 1913, 49,928. Of this number, deaths from cancer of the breast from 1901 to 1905,

1,845; 1910, 3,730, and 1913, 4,592, showing an actual increase in cancer of the breast from 1901 of 5.6% to 1913 of 7.3%.

Many of the cases now being reported, the cause of death as cancer, especially of the stomach, intestines and all internal organs, were not formerly recognized. It is only in the last few years that statistics have been sufficiently kept that we are able to make any definite report. Even today there are sections which amounts to practically 40% of our population where no statistics are kept or records made.

The reports by various surgeons of the United States show that the percentage of recurrences from operations upon the breast alone vary from 20% to 60%. Koenig and Gause, of Freiburg, Germany, report not more than 30% of recurrences from all cancer. A report from the Mayo Clinic by Judd and Sistrunk shows that 52.4 of cases are living after five years. The cases operated upon between 1902 and 1903, 32.5% are known to be living without recurrence, which is more than 12 years. Of 510 patients reported upon 55.3% are known to be dead in less than three years from cancer and other causes, and of the number still sur-



Plate 14

Showing the muscles as left after complete dissection by Rodman's operation, and the nerve of Bell, and the small branches of the posterior thoracic being the only branches, nerves or vessels left.

viving 27 are known to have recurrence at the present time, and 19 have died from other causes.

Wertheim reports 46% recurrences within five years. Schautta reports 66% recurring before five years. This applies, however, to cancer of the uterus and the operation done by the vaginal route, leaving, in a large majority of cases, both tubes and ovaries. In Von Eiselberg's Clinic there is a recurrence of 58% before five years. Cofer, in Berne, Switzerland, 46%, and Bastinalli, of Rome, Italy, 45%. While the percentage of recurrences is high, the lives saved by surgical interference are just so many lives prolonged from a sure death; without surgical interference death is inevitable.

The statistics from the various clinics are very positive that cancer is curable, but in the large majority of cases only surgically. Radium and Roentgen rays have often, and are still, being tried, and are very successful with superficial cancer, but with variable results in malignancies of the deeper structures. Wertheim, in Vienna, reports that 54% of his cancer cases are living after five years. Von Eiselberg reports in his clinic, cancer, all portions of the body, 42% after

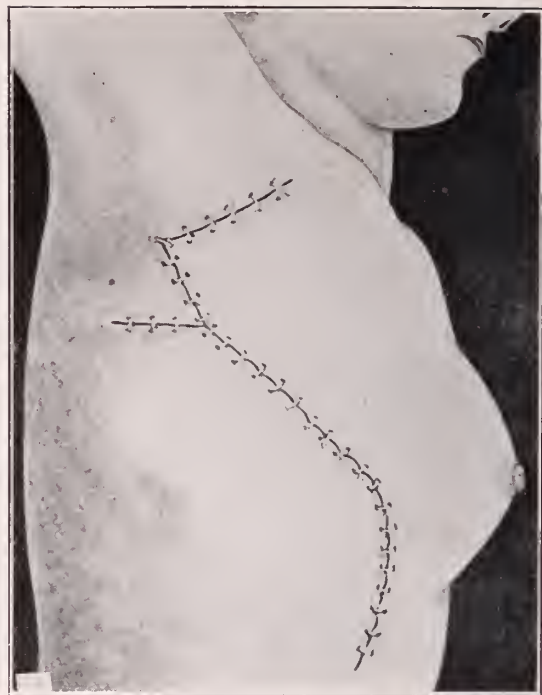


Plate 15

Showing the closure of the incision as described by Rodman.

five years. Cofer, in Berne, Switzerland, 46% Bastinalli, of Rome, Italy, 45% after five years.

I had the pleasure of visiting all of these clinics two years ago. Their operations are not limited to the milder conditions; they often operate on cases we consider inoperable.

In September, 1915, I visited Dr. J. F. Percy's Clinic at Galesburg, Ill., and examined with him a number of cases that had been operated upon, for what we consider inoperable cancer of the uterus, by his cauterization method. He had 22 cases in and around Galesburg that were in good health, varying from 7 years to 6 months after operation.

Various other surgeons, notably Rodman, Bloodgood, Robert T. Morris, John B. Dever, Stewart McGuire, Ochsner, Kelly and others, give statistics for permanent cures, ranging from 35% to 72%.

Koenig and Gause reported approximately 70% of permanent cures with radium and Roentgen rays, following surgery, and in a great many instances these used primarily.

A report from the Mayo Clinic by Judd and Sistrunk in 1914 report 609 patients with cancer of the breast, with an average of 52.4% of cases living after five years, and that 32.5% of operations done between 1902-1903, I will not add my personal experience



Plate 16

Showing the normal use of the arm after radical operation for cancer of the breast, with a prominent axilla, due to leaving the axillary portion of the pectoralis major and minor muscles. The use of the arm increased by leaving a portion of clavicular attachment of the pectoralis major in position.

or statistics as a later report will be made. Much of my work has been done within the last five years, and no report in less time than this is of value.

While Radium and Roentgen rays have their place in the treatment of malignant diseases, none of the best authorities are willing to abandon or to substitute any of these agents, without first resorting to surgery, provided the malignancy has not reached an inoperable stage. Statistics from recoveries for cancer and my own private work makes me know that cancer is curable. While the recurrences vary in the hands of different operators, and with the stage of the disease when operated, and in permanent cures made, however, we know from having watched the ravages of this most dreaded disease, that if the condition is left alone death is inevitable, and often at an early date. Where the disease is entirely a local one early excision is in a large percentage of cases a positive cure. Dr. Willie Meyer says, "Cancer is curable by the surgeon's knife, if the growth is radically removed at an early stage."

"I have often been asked when is the best



Plate 17

Showing the complete control of the right arm after a radical operation for cancer of the breast, leaving a small portion of the pectoralis major, which gives the extremity all of the normal movements of the pectoralis major.

time to operate for cancer of the breast. To this there is only one answer, and that is, as early as a nodule or mass is recognized, and then, in the language of Bevan, "Excise and excise early every tumor of the breast, regardless of how small it is, or how innocent it seems." Women often notice a small nodule or soreness in the breast with or without a bloody discharge from the nipple for months or even years, before their doctor's attention is called to it. When we educate our laity to the extent that the foreign countries have, this condition will be brought more promptly to the attention of the physicians, and where we now have a permanent recovery varying in the hands of the operators from 40% to 72%, I believe it possible, where the operation is done earlier, that this percentage may be raised from 75% to 80%.

Many of the foreign countries have taught their inhabitants the importance of an early examination and treatment, and especially their women in reference to cancer of the breast. This is notably true in Germany, Austria and Switzerland. Even England is teaching her women the importance of early examination and operation for this condition.



Plate 20

Woman 74 years old with adenocarcinoma above and to the inner side of the right breast with involvement of the entire breast, axillary glands and supra-clavicular glands.

Even with this, the percentage of deaths from cancer are almost equal to those for tuberculosis. Portsmouth, England, has had her medical officers teach the public the important things they should know in reference to malignancies, to the extent that deaths from cancer in 1914 were 197 as compared to 230 in 1913; previous to this, increase in cancer in Portsmouth for the last 20 years had been 6.79%.

A very systematic and careful examination should be made of every painful breast coming under our observation, especially in the cancer age.

Catching the breast between the thumb and fingers, plate 3, is not the best method of detecting nodules, and especially small cancerous ones deep-seated in the large glands. Gently pressing the breast with the palm of the hand, plate 4, rolling it against the chest wall, will, almost invariably, detect the smallest nodule. So far as we know today, surgical interference is the only safe procedure where any abnormality is discoverable.

The investigation of these small nodules is easily done, and without any great discomfort to the patient, leaving her very slightly

distigured. With an incision made on the outer side of the breast, plate 5, following along the junction of the gland to the chest wall, the breast is readily turned up, plate 6, and the nodule, or part of it, removed by canterly. A specimen should not be removed with a knife, as this opens up blood and lymphatic vessels, with the possibility of escape of cancer cells into the circulation, making metastasis more liable should the growth prove to be malignant. An examination should be made by a pathologist at the time, who should always be present, and from a frozen section give a report, so, within five to ten minutes, you can know positively whether or not a radical operation is necessary. The report from the pathologist of the frozen section is as positive as from serial sections later on. Should the nodule or lump prove to be a cyst or benign growth, closure of the incision leaves practically no scar, plate 7, and the woman has the assurance that she will not later develop a malignancy from this growth. If the examination proves the growth to be malignant, the radical operation should be done at once. If by chance circumstances are such that the surgeon cannot avail himself of the opinion of a pathologist, it is a great deal better surgery, with a patient past the age of 40, to remove the entire breast and muscles, even doing the complete radical operation for a benign condition, than to allow cancer to develop from the growth, and to finally take the life of the patient. Most women had rather submit to the slight mutilation than to run the risk of cancer.

In 1908 Rodman described his original operation for excision of the breast, beginning the dissection in the axilla. Willie Meyer some twenty years ago first practiced this. He did not report it energetically enough to receive credit for it. So far as the results are concerned, there is little difference between the Halstead and Rodman operations. The advantages of the Rodman operations are that the blood supply is controlled primarily; that the vessels are not repeatedly cut as in Halstead's operation; that the shock is less; that there is less danger of the escape of cancer cells into the tissues and lymphatic circulation.

The Rodman operation I am illustrating by his own cuts, being forced to use these as my artist, on account of her physical condition, has been unable to finish her original drawings (all other plates are original ex-

cept two from Gray's Anatomy). Plate 8, showing the primary incision, beginning one inch below the clavicle and about two inches to the inside of the arm, internal to the sulcus, where the pectoralis major joins the deltoid. The incision should be kept well away from the arm, so that the cicatrix will not encroach upon the vessels, or interfere with the movement of the extremity. The length of the incision will depend entirely upon the length of the chest, in small or large women. The first incision is parallel with the arm, and through it the pectoralis major muscle is exposed. Plate 9, showing the dissection and division of the pectoralis major muscle. I have varied this slightly from the Rodman operation, in that I invariably apply a clamp on the proximal side of the muscle to control hemorrhage from the branches of the superior, long and acromial thoracic muscles, and which course along under them in the deep fascia at the upper and lower margins. There is such an anastomosis from the perforating branches from the internal mammary, that collateral hemorrhage will take place from the severed branches. Cut the pectoralis major about 2" internal from its humeral attachment up to within about half an inch to its upper margin, splitting the muscle back to its costo-clavicular attachment, leaving this part of the pectoralis major in position. This leaves enough of the distal end of the muscle to fill in the axilla. As the

pectoralis minor is exposed, plate 10, it is divided in the same way. The index finger should be passed under the muscle before cutting to make sure that no other tissues are included with the tendons. With the clamp on the proximal ends of the two muscles we control the possibility of hemorrhages from the acromio-thoracic artery which runs just below the pectoralis minor tendon. With proper care neither this nor the long thoracic should be severed until you have exposed the axilla. As soon as the muscles are cut, they both retract inward, which exposes the axilla and makes thorough dissection easy, cutting through the costo-coracoid membrane, which is largely removed, gives easy access to the subclavicular fat and glands in the axilla, plate 11. In removing this membrane the cephalic vein has to be wounded. There are always branches of the artery in this area which should be clamped and tied between ligatures. It is necessary to sacrifice practically all of the small nerves that supply the pectoral muscle, with the arteries and veins. The dissection is begun at the apex of the axilla, first exposing the artery and vein and relations of the brachial plexus. Dissection here should always be done with gauze over the finger, as instruments are so liable to do almost irreparable harm unless used most cautiously. As the sheath and fat are removed from the vessels, you cut down to the acromial and long thoracic branches, also the

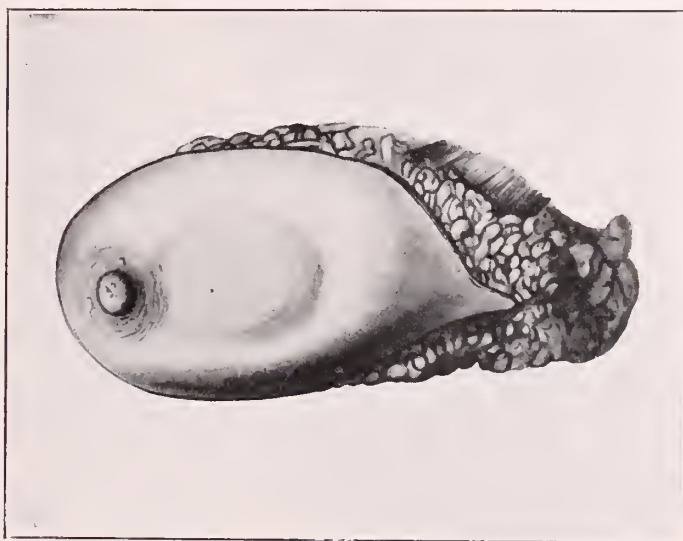


Plate 21

Breast removed from case 4, showing a large nodule to the outer side of the nipple and filling in practically the entire breast.

subscapular branches of the axillary artery. These should be clamped and ligated and divided between ligatures. The enlarged lymphatic glands, should there be any, are usually found at the base of the axilla in space bounded by the latissimus-dorsi and teres major muscles, the serratus-magnus internally, and below the line of the lower border of the pectoralis minor. You may, however, find other glands involved as the sub-clavicular or supra-clavicular. The dissection will, of course, depend upon the extent of glandular involvement. It is necessary to make a clean, distinct dissection of all of the fat and enlarged glands, so that all of the muscles bounding the axilla are exposed, all the small blood vessels and nerves with the possible exception of the nerve of Bell are destroyed, this being one of the nerves of respiration it is best to save if possible. After the careful dissection of the contents of the axilla is completed, which should be done as near as possible in mass. The second incision is made, plate 12, from the middle of the parallel incision, making the old incision that is so well known of Halstead, going well above and below the breast, making the distal point of the oval incision on a level with the ensiform cartilage. Rodman's incision, however, has its apex at this point, as is shown; this modification is unimportant. With a very careful dissection the skin is dissected free from the deep fascia; the fascia is claimed by Judd and others to be the main lymphatic

bearing tissues. Plate 13 shows the dissection downward of the pectoralis major and minor muscles, together with the fat and deep fascia, plate 14. The fascia and all muscular tissue should be carefully removed down to the external costals, exposing the upper ends of the recti muscles. The sheath covering the serratus magnus, the external oblique, and the latissimus dorsi should also be removed, undermining the skin from the latissimus dorsi, exposing the muscle thoroughly.

By this dissection all of the lymphatics from the axilla and the blood vessels are blocked primarily, avoiding the possibility of expressing cancer cells from the tumor out into the surrounding tissues, and the lymphatics, making metastasis less liable. With this procedure it is surprising how little hemorrhage there is from the operation, except for the perforating branches of the internal mammary, which are easily caught and ligated after removal of the breast and pectoralis muscles. With this incision I have never found it necessary to do a skin graft; there has always been left enough skin to close the apparently enormous areas satisfactorily. Should there be any annoying capillary hemorrhage the application of very hot sponges will control this, making it often unnecessary for drainage. In the majority of my cases, however, I have drained with a stab wound at the extreme dependent point of the posterior surface of the axilla. Plate 15. After hemorrhage is thor-



Plate 22
Cross section of breast, as shown in Plate 21,
showing multiple adenocarcinoma.

oughly controlled, with a tenacula in three angles of the wound it is closed, using, as a rule No. 2 Chronic gut. I invariably use a few tension sutures of silk worm gut.

In this operation, which is really a modification of Halstead's original operation, as done by Halstead and Willie Meyer, in 1884, there is a great deal less shock and certainly much less loss of blood. I do not recall a case where the shock has been the least alarming, nor where the hemorrhage has been annoying.

You will remember that I called attention in the description of the operation to leaving the distal ends of the pectoralis major and minor muscles in the axilla, and also described a method by which a part of the clavicular fibers of the pectoralis major were left in position. Plate 16 will show what perfect control the patient has of arm 18 months after operation; that from the incision as described that there is no atrophy or contraction of the axillary tissues that there is a prominence of the axilla due to the distal ends of the muscles. Plate 17 will show the perfect control the patient has of the extremity, showing that she can pull the arm entirely across the chest and extend it over her left shoulder, getting the action of a normal pectoralis major muscle.

While the cancer age is said to be from 35 to 60, the cases I shall show are practically the two extremes of life. I am showing four cases of adenocarcinoma, the first plate 18, a young unmarried woman, 26 years of age (family history negative), whose health had always been good previous to six months ago when she began with sharp lancinating pain her left breast, that she thought was due to a blow received months before. For the last five months there had been a constant bloody discharge from the nipple, which was more increased at the menstrual time. Pathologists claim that a bloody discharge from the nipple occurs in only three conditions. First, and most commonly in carcinoma beginning in the lactiferous ducts; secondly, in the small papilloma, situated likewise within the lactiferous ducts. All of these conditions, if not malignant at the time, in practically 100% of the cases, as reported by Murphy and Rodman, become so. With this case a primary operation was done, removing a section from the under surface of the breast, as is shown by plate 6. A report in five minutes from frozen section by Dr. Bunce, showing

the growth to be adenocarcinoma, a radical operation was done.

Plate 19, a woman 36 years of age (family history negative), the mother of six children. Had noticed a growth in her left breast for practically a year. She was not alarmed about the condition until the glands in the axilla were so painful that her ordinary duties were interfered with. Was four months pregnant at the time that she was referred to me. She stated that the tumor had grown so much more rapidly since she became pregnant, than before. It is a fact that women in the child-bearing age, development of cancer is much more rapid, with the metastasis earlier, than in older patients. A diagnosis in this case without the pathologist's report would be positive, but Dr. Bunce's report showed this to be adenocarcinoma. Radical Rodman's operation was done.

Case 3, plate 20, is a patient 74 years of age, mother of six children (family history negative); health always good, who had noticed a gradual enlargement in her right breast for the last year. She had not mentioned this to any member of her family, thinking it would soon disappear, as her doctor had told her to paint it with iodine. She was referred to me, and upon examination, found the entire breast an enormous mass, all glands in the axilla enlarged, and two or three glands palpable above the clavicle. She was operated upon some 18 months ago, doing a radical Rodman's operation, also dissecting three glands from above the clavicle; these proved to be metastasis from an adenocarcinoma, as reported by Dr. Bunce from frozen section at the time, the last or uppermost glands showing no metastasis. I have always believed that when the glands above the clavicle became involved that operation was useless; this case, which shows no evidence of recurrence after 18 months, puts me in position where I am not sure when a case is inoperable.

Case 4, a young woman 30 years of age, mother of five children, the youngest 6 weeks. Mother's father living with cancer of the nose; mother's mother died with cancer of the breast. Otherwise family history negative. Has always been in good health and never sick except at time of confinement. In June, 1915, she noticed a slight nodule in the outer surface of the breast. She was then three months pregnant. On account of pregnancy, her physician decided best to wait un-

til after confinement to have the mass investigated. From June until February 10th, it grew rapidly with metastasis into the axillary glands. Since child birth the mass has been painful, pains radiating into the axilla and a slight bloody discharge from the nipple. After removal (this case operated upon in the country) doing a radical operation; the breast appeared, as shown by plate 21, with multiple nodules, in addition to the one large mass. Plate 22 shows cross section cut through the nipple, showing multiple adenocarcinoma. Note the numerous small cancer areas distributed through the breast tissue. A sad fact connected with this case is that the patient will have to lose the right breast soon, as there is a very distinct nodule in this.

These four cases showing the extremes in the cancer age, and the age at which cancer is most malignant, are all of the same type. The young woman, case 3, 36 years of age, had a recurrence within 10 months. I have since reoperated, removing all of the glands from the axilla under and above the clavicle.

In a recent article from Murphys Clinic he refers to a woman with cancer of the breast as "fair, fat and 40," and adds to this "fatal," stating that he cannot recall any case of a woman of the above description living, after a few years, following operation.

While I am not reporting statistics, I have many cases between the ages of 30 and 40 who have not recurred in from one to five years. The most rapid and violent recurrences occurring in my work, causing the death of the patients early, after recurrence, were in two school girls, both mulattos, ages 18 and 19, respectively. The pathologist's report showed them to be adenocarcinoma. They were both dead within a year after I operated, with recurrence and multiple metastasis.

Metastasis from cancer does not and cannot take place until after the third stage of hyperplasia, this according to McCarty's classifications, or until the basement membrane is destroyed, the cancer cells are not set free into the surrounding tissues and lymphatics. While metastasis takes place from carcinoma, principally through the lymphatics, the blood channel does carry cancer cells, especially if the blood vessels are injured, even after the basement membrane

has been destroyed the cancer mass may be so surrounded by connective tissue, making it possible for some malignancies to exist for years without metastasis taking place. Of 10,315 autopsies in the pathological institutions of the world 19.7% were found to have no metastasis, or that 19.7% of these malignancies were entirely local, and that that percentage would be well following the removal of the primary lesions. Metastasis being made possible through the lymphatic channel, the breast being one of the most highly supplied areas of the body with lymphatics, both with a superficial and deep layers, metastasis takes place more often from this area than in any other of the body, passing first through the superficial (plate 23) vessels to the superficial nodules of the axilla then through the deeper vessels, plate 24, and the deeper glands which fill in the axillary space, surrounding the blood vessels and nerves, then through what is known as Handley's channel, which courses from the breast down through the umbilicus, and then up the round ligament to the under surface of the liver. The next most frequent site from which metastasis takes place is the cervix, and less frequent from the fundus of the uterus and internal organs. The sigmoid showing less metastasis than any other portion of the body.

Plate 25, showing a schematic drawing by Dr. Bunce, of cross sections of a gland illustrating the development of cancer. Figure 1. This is a schematic drawing of a cross section of a normal gland. You will notice that the normal gland is lined by a single layer of epithelial cells and that the basement membrane is intact throughout. This is typical of a normal gland tubule. No. 2. This shows a cross section of a gland tubule where there is more than one layer of epithelial cells lining the tubule. This condition shows two layers of glandular epithelium lining the tubule is known as primary glandular hyperplasia. It might be called the first stage in the development of a malignancy. No. 3. This shows a gland tubule, which has such marked proliferation of the glandular epithelial cells, that the entire tubule has become filled with the gland cells. When a tubule has become thus plugged it has lost its usefulness as a secreting gland. This condition is known as a secondary glandular hyperplasia and might be called the second stage in the development of

a malignancy. No. 4. This diagram shows a gland tubule which has become filled with epithelial cells, and in which the basement membrane has broken down, and the gland cells are not only filling the tubule, but are invading the surrounding tissue. This shows the characteristic structure of a gland unit, which has become malignant. The gland tubule has first become filled with epithelial cells, and, secondly, the basement membrane has become broken down, and the cells are running wild, this being a typical malignant gland.

Finally, I feel with the responsibility of the laity neglecting growths that may finally prove malignant, or that are at the time, rests with us, that we have not dissimulated our knowledge concerning malignant disease through the lay press and otherwise, as would teach them the importance of early attention to abnormalities, especially those of the breast. It is not only necessary that we educate the public, but we ourselves should realize the importance of the very earliest investigation of these conditions. Until we have educated the laymen we cannot hope for medicine to reach the high plain upon which we wish to place it. We never can have it freed from charlatanism, from imposters, counterfeiterers, and from the malignant treacheries of patent medicines, vendors and quacks, until the public are taken into our confidences and honestly and fearlessly taught all that we know of these serious conditions.

DISCUSSION ON THE PAPER OF DR. FISCHER.

Dr. Henry S. Munroe, Columbus: I have certainly enjoyed Dr. Fischer's paper very much, and I feel as though I am called upon to say a few words, inasmuch as I am the gentleman he referred to who spoke so discouragingly about cancer at the Savannah meeting. We were discussing the operative treatment of cancer there, and in the discussion I made the remark that my experience had been that I had never seen many cases of cancer that had been permanently cured by operation. I shall certainly enjoy reading the statistics of recurrence of cancer which the doctor has presented tonight.

I realize that favorable reports regarding

cancer have been made, and that the best men in our country have been giving us encouraging reports that carcinoma is curable, and operation offers the only chance of cure we have, but up to the time of the Savannah meeting my experience was such as to make me feel discouraged. I am still operating with the hope that my statistics will be better than they have been. It may be the five-year limit will show better results than I have obtained up to that time.

A great many of the cases put down in statistics diagnosed microscopically as cancer and regarded as curable are not genuine carcinoma. While I do not want to say anything to discourage microscopic examination of specimens, at the same time it is known that microscopists make mistakes as well as the clinicians. Let me refer to one case in particular.

Three years ago one of our physicians sent an old man, 56 years of age or more, to the Mayo Clinic to be operated on for goiter. He had a very large goiter. Dr. Mayo removed a section of it, pronounced it carcinoma, sent the man home, and it was expected he would die within twelve months. A few days ago this doctor received a request from the Mayos to send them a report in that case of his examination, and the examination showed that the goiter had shriveled down to the normal size, and yet the microscopic examination was that of carcinoma of the neck. That has happened time and again.

I remember very well of having a case of what was thought to be carcinoma of the stomach, and this patient was sent to Dr. Finney in Baltimore. Dr. Finney operated, had a microscopic examination made of the specimen removed, and pronounced the tumor benign. He sent the man back to Georgia and he died within six months with recurrent carcinoma in the same place. The microscopic test is not always reliable. Our clinical test, in many cases, is just as reliable, if not more so, of malignant growths than the microscope, and particularly if the growth keeps on advancing. When we have a malignant growth to deal with I feel that our chances of curing the patient are somewhat doubtful. Notwithstanding that, I believe that surgery is the best treatment that we have, and the more radical the operation we do on these cases the better are the chances for cure.

Dr. Rodman claims that his operation gives a larger percentage of cures than any other operation that is used today. He claims to cure 70 per cent of all cases in which the microscopic examination shows that the growth is malignant. A great many of these cases are taken and operated on early when there are small nodules and they are in the pre-cancerous stage. Then is the time to operate. He claims that the old Finney operation has only 40 per cent of cases of cure, but since then the technic of the operation has been gradually improved, and as Dr. Davis has told us Rodman gets a positive cure in 70 per cent of the cases. He attributes this success largely to the fact that he begins under the arm and dissects out the glands in the axilla before he removes the breast in order to prevent pushing cancer cells from the breast through the lymphatics.

With reference to the functional use of the arm, which the doctor referred to, since reading Dr. Rodman's report of his cases and a description of the operation, I have been using that operation myself, and I do not know whether the saving of a piece of muscle has anything to do with the functional use of the arm or not. I remove the muscle in a working woman in such a way that she has perfect use of the arm. The women I have operated on have been able to put their arms around the back; they have been able to work in cotton mills ever since their breasts have been removed, and they have good functional use of their arms.

Dr. F. W. McRae, Atlanta: There are one or two features in connection with cancer of the breast and cancer in general that I wish to speak about.

We in Atlanta were fortunate enough to have with us a month or two ago Dr. Gaylord, of the Cancer Research Institute of Buffalo. He gave us some facts of the greatest value in connection with cancer, and especially as bearing on cancer of the breast. Dr. Gaylord's investigation, together with that of the other men who are working along the same line, has shown beyond question that we are dealing with a general, as well as a local condition; that the results which we get—the brilliant results—are due largely to the way in which we handle our cases before and at the time of operation. They have shown, further, that in the majority of cases not all cancer cells are removed at the time

of operation; but if we build up the patient's general condition, if we develop leucocytosis by the methods which have been worked out, then we aid greatly in the chances of getting permanent cures in these cases. He has shown in animals that where the spleen has been removed they have no resistance, practically. Further, by the use of the x-ray increasing the leucocytes by radiating the long bones and spleen the chances of permanent cure are greatly increased. Those are simple points.

Cancer investigation is proceeding along promising lines, and I want to say that we are getting a great deal of light from these research institutions and especially from the institute in Buffalo. Perhaps Dr. Gaylord is one of the leading scientists in the world who is working along these lines.

Just after Dr. Rodman's death, when he had accomplished so much, and was accomplishing so much as President of the American Medical Association, I thought it was well for us to give him due credit for the work he has done in connection with cancer of the breast.

I have had the pleasure of attending Dr. Rodman's clinics a number of times, and I do not think any surgeon I have ever seen operate, or whose after results I have been able to follow up, does as pretty an operation for cancer of the breast as the operation devised by him. The operation results in perfect restoration of the function of the arm. Such women, when operated by the Rodman method, can scratch their backs or do anything that any woman would want to do with her arm.

A rough examination in which pressure is exerted on the breast may often convert a case which might have been cured by early radical operation into one that is incurable by expressing the cancer cells into the circulation and putting them beyond the reach of the surgeon.

There are two points clearly demonstrated by the work of Dr. Gaylord, as well as by that of other men. One is, if you take a case of cancer of the breast and operate under prolonged anesthesia the resistance of the patient is very low. That is borne out by laboratory and experimental methods of investigation. The other point is, if you take the same animal for the same length of time and let him lose blood, it will increase the num-

ber of recurrences very greatly. The best results in cases of cancer are obtained by operating quickly under nitrous oxid and oxygen anesthesia, where the hemostasis is thorough and complete.

Dr. C. C. Harrold, Macon: The question of recurrence of cancer is extremely important, and I suppose most of you have noticed in the last issue of the *Murphy Clinics* a statement to the effect that "I do not think I have a single fat woman under 40 years of age who has permanently survived an operation for cancer of the breast or in whom ultimate cure has resulted."

The question of saving a part of the muscle is not so important. All of us have had women upon whom we have operated for cancer of the breast without removing all the muscles. I have women working in spindles who have got perfect use of the arm, and I have had a number of women who can get to the back of the hair of the head, and that is about as hard a thing as any woman has to do, without any of the muscles having been left at all.

Unquestionably men who are extremely skillful in this work should remove the entire muscles because the more thorough the exposure, and the more radical the operation is, the more apt one is to remove all of the glands, for the leaving in of a small portion of the pectoralis major would increase the risk of leaving some of the glands under the clavicle.

With reference to the supra-clavicular glands and their removal in operating on this old woman, I would like to ask whether the doctor would have dared to do it in a young woman while the mass was in the breast?

In looking up the data for his paper, I would like to know whether he has found any recent reports of how many men are operating on malignant recurrent tumors in the neck? I have been doing it, and I would like to know whether it is proper surgery to do this. I have had one woman who went three years before she had any recurrence, and then the recurrence took place in the supra-clavicular glands. I removed the omohyoid and internal jugular and the sternocleidomastoid to get thorough exposure. I had to remove the glands as I found they were completely around the jugular. I do not know whether the woman will get a recurrence or not. I got a recurrence in six months in the

last case I did in the opposite side of the neck.

Dr. A. H. Bunce, Atlanta: With reference to malignancy the question arises, what is cancer? We know the theory is that cancer develops from pre-existing normal tissue. If that is the case, there must be a developmental stage before it becomes cancerous. That is what McCarty terms the precancer stage of a growth. Therefore, the question with reference to what the microscope shows is justifiable. The microscope does not always show the same findings that you get clinically. In other words, a growth may appear to one man to be cancerous, whereas another man may make a diagnosis of a pre-cancerous stage. There is no doubt as to what you have present, but whether it becomes malignant or not, you can not say every time. There are cases where some of the best pathologists have repeatedly reported that the tissue they have examined is benign, and yet the patient has died of malignant disease, and vice versa.

According to the work done by MacCarty on malignant disease of the breast, he has seen fit to classify these cases as, first, the atypical gland tubule; that is, we have a gland tubule lined with a single layer of epithelial cells. There is some cause, we do not know what, whereby these cells begin to develop and we find the gland with two layers of epithelial cells. The gland cells are proliferating. He calls that the primary glandular hyperplasia. If the condition continues and the gland tubule becomes plugged with epithelial cells, that is secondary glandular hyperplasia. If the gland cells lining the tubule continue to proliferate and the basement membrane breaks down, and the epithelial cells lining the tubule are scattered throughout the tissue stroma, we have cancer. That is the best classification we have at present to go by.

With reference to frozen sections in surgery, they can be made of epithelial growths and fairly satisfactory reports given within a few minutes. I might say that this method was first devised and carried out on fresh or living tissue by Dr. Louis B. Wilson, of the Mayo Clinic. With epithelial and glandular growths, we can tell with almost absolute accuracy whether we are dealing with a malignant condition just as much as you can with a section later on. Sarcomatous

growths and tuberculosis of the glands, for instance, are hard to tell. You can not make a diagnosis at all times by means of a frozen section. A case Dr. McRae had a short time ago will illustrate this point. This woman had had an adenoma. The gland tubules were dilated, there was proliferation of epithelial tissue which showed a great many epithelial cells present. There was breaking down of the basement membrane of the individual gland tubules, but the cells were not scattered out to the gland unit. That is a case which would undoubtedly become malignant if left alone. I think that would be classified as a pre-cancerous growth because the epithelial cells are not breaking down the gland unit.

It is only by careful study of these growths from the time they begin to develop until later on we can corroborate the microscopic findings with the clinical findings that will enable us to make a diagnosis, and that is where progress is going to be made in the future.

Dr. Willis F. Westmoreland, Atlanta: One thing we ought to emphasize more than anything else in connection with cancer is the fact that there are two varieties of the disease and the length of time it takes to kill a patient. For instance, in the encephaloid form it takes about a year from the time it starts until the death of the patient, and in the scirrhus form it takes about eighteen months.

A thing that is overlooked frequently by excellent physicians in scirrhus of the breast is that one breast may be actually smaller than the other. I have had patients come to me where physicians have said that they did not think they had a tumor because one breast was smaller than the other, and it was only when it began to get very hard that definite recognition was made. In the meantime, the patient had lost several months which would have been to the good if she had come earlier. With the exception usually of a few patients, the majority of these women can be relieved if operated upon when the mass first begins to form. It is entirely local in its incipency and any radical operation of the present time would insure these patients (with the exception of a very small percentage) immunity so far as its return is concerned.

I find that the average time in getting cases of carcinoma of the breast is from five to eight months after the disease has started. That means a larger mortality than the mortality that has been shown here tonight. Twenty-eight per cent mortality in the class of patients we get where resection of the breast is necessary would be exceedingly low. I do not know the mortality percentage in my cases, nor the percentage of successes, for the reason I have not been able to trace those patients that were operated on years ago. It is impossible to get information in regard to their condition after they leave. I think if every physician would impress upon a woman when she notices a nodule in her breast its importance, it would help a great deal in discovering these conditions early. Nearly all women consult us when it is generally too late to bring about a permanent cure by operation. A great many women consider it a reflection to make it known that they have a tumor of the breast, and they hide it until grim necessity compels them to consult a physician and get advice about it.

Another point I would impress is that we can not always tell when a tumor of the breast, although seemingly benign, is going to become malignant or take on malignant changes. All of them are susceptible to these changes. Occasionally malignancy occurs simply from irritation of the growth without occurring in the original mass. I am satisfied in one or two cases I have seen of fibromata the cancerous condition did not appear in the original tumor except the latter acted as a focus of irritation by the contraction of the surrounding tissue.

As to the increase of cancer, there is no question but that cancer is on the increase. I think it is the only pathological condition we have left now that is on the increase, and my statement will be confirmed by reference to the United States Census Reports. You can see from each decade that there is an actual increase in cancer, but I think it is to be largely accounted for on the ground that we are making better diagnoses now than we used to do. Nevertheless, cancer is really an increasing disease. I think all women who have a tendency toward cancer of the breast or cancer of the uterus should consult their family physician, beginning with the first child. Practitioners should be on the look-

out for these things, so that surgeons can get these patients at an early stage for operation. Cancer is a condition of functional decline in women, and you all recognize that the tissue of functional decline has not the resisting power it has in its stage of greater activity. For that reason, we can not tell about the rapidity of the growth in these cases. In a woman with large breast that is very vascular, in my experience the metastasis is very much more rapid, not only of the growth along the lymphatics, but metastasis in a fat woman occurs very much earlier and in a larger percentage of cases than it does in a slender one.

Dr. J. Leroy Campbell, Atlanta: There is one feature of Dr. Fischer's paper I would like to emphasize, and that is with reference to operations for cancer or for tumors of the breast, whether malignant or not, during pregnancy. Operation should never be postponed on account of pregnancy, because, as Dr. Fischer has pointed out, the growth is more rapid during that time. The circulation in the breast is very much more extensive during pregnancy, especially in the latter part of pregnancy, and consequently there is a greater increase in the growth of cancer during this period. The only objection to an operation during the latter part of pregnancy is the amount of hemorrhage that occurs during the operation. All of the superficial vessels are very much enlarged and the hemorrhage will be more profuse.

About a month ago I operated on a patient, seven months pregnant, who had all the clinical features of a Paget's disease, although the pathological report said it had not reached the malignant stage.

I have used in most of the cases I have operated on in recent years the technic as outlined by Dr. Jabez Jackson.

I wish again to impress upon you the feature brought out by Dr. McRae, and that is dissection from without inward, beginning in the axilla, cleaning it out first and carrying your dissection toward the middle third, thus cutting off the escape of the cancer cells from the lymphatics in the first place. I think the fascia along the outer border of the pectoralis major muscle should be removed first, because we have the largest lymphatic channel in this region and the channel through which metastasis occurs earliest and most frequent. The lymphatic

glands in old people are very much less active than in young girls. It is quite a rare instance, or rather coincidence, that the lymphatics should be so extensively involved as in Dr. Fischer's case of the old woman, a picture of whom he showed on the screen.

Dr. Hugh Inman Battey, Atlanta: Very few of us realize the important position the pathologist plays in this condition. I have in mind several cases that draw attention to the duty of the pathologist. I want to compliment Dr. Bunce in this connection on going deeper into this subject than the average man. I recall one case that came into the hands of Dr. E. C. Davis several years ago, a young girl, in which he did not have the right apparently to do a radical operation upon the breast. He had a pathologist examine this tumor by a frozen section, and it was reported as an adenocarcinoma. A specimen was sent to Dr. Wilson, of the Mayo Institution, and it was also reported by him as an adenocarcinoma. A radical operation was not consented to, and never done, and the girl is in perfect health today. This occurred several years ago.

It seems to me that the pathologist is really at the bottom of this business. Dr. Fischer is correct in saying that these cases should go to the surgeon only. They should go to him early when there is a difference of opinion between the pathologist and the clinician as to the later manifestations. Then, what are we going to do? We ought to place more responsibility on the pathologist in these matters than we have done in the past, and we should expect from Dr. Bunce and other pathologists some expression of opinion as to the probable nature of these cases.

I think Dr. Fischer's dilemma in the matter of getting these cases late and hampering him in his results is due largely to the pathologist. If the pathologist and surgeon could get closer together in the consideration of these cases there would not be any question as to the results.

I have had a very limited experience with these cases except in consultation with other men, but I have seen considerable difference of opinion expressed between the clinical manifestations later and the pathological report. These opinions have been so divergent that we can not demand of a woman who has a tumor of the breast to have the whole breast removed. We are not ready for it. As

soon as the pathologist begins to give us definite, consecutive, accurate reports of these cases, then we will get at the bottom of the cancer question. At the present time nearly all the burden rests with the pathologist.

Dr. Fischer (closing): I wish to thank Dr. McRae for calling attention to the point that we should give Dr. Rodman all the credit that is due him for this operation. I tried to do that in reading my paper. I received a personal letter from Dr. Rodman which was written a few days before he died, and I have quoted him as saying that his percentage of cures from his operation has been 72 per cent after five years. The percentage of permanent cures from the Halsted operation as reported by Bloodgood is 42 per cent. The Halsted operation has been done by Bloodgood and Willy Meyer since 1884, and the Rodman operation has been done since 1908, so with the Rodman operation the percentage of permanent cures after five years has been brought up to 72 as compared with 42 per cent from the Halsted operation, as reported by the best authorities.

In reference to Dr. Harrold's question as to the advisability of removing the glands when they recur, year before last I visited various clinics in Europe and I was impressed with the work of the late Dr. Cooper in reference to cancer. Dr. Cooper says that he operates, and if there is a recurrence he reoperates, no matter where the recurrence may be. The opinion with reference to reoperating on these cases is shared by Von Eiselsberg, Schanta, and various operators in Vienna.

One gentleman called attention to leaving part of the pectoralis major muscle. There is no muscle on the chest wall that is left after you have removed entirely the pectoralis major and minor muscles that pull the arm in this position. (Indicating.)

Dr. Westmoreland spoke of metastases of cancer and said they were likely to occur in old persons. Dr. John B. Murphy, in a recent lecture, said that cancer metastasis does not, and can not, take place until the basement membrane surrounding the pathological growth is broken down. That is what MacCarty calls the third stage of hyperplasia, or the actual development of cancer. Furthermore, Dr. Murphy says that scirrhus cancer occurring in many older persons may exist for months and years without metas-

tasis taking place, for the reason that the mass is entirely surrounded by connective tissue.

Dr. Battey speaks of Paget's disease in connection with radical operation. I think it is conceded by the best authorities today that Paget's disease in 100 per cent of the cases is malignant. As radical an operation should be done for Paget's disease today as is done for any other pathological condition that exists, particularly cancer. Paget's disease is one of the diseases in which we find a small amount of hemorrhage from the breast. Hemorrhage from the breast, or any bloody discharge from the breast, is something that should attract your attention and impress upon you that in 100 per cent of these cases the disease is malignant at the time you see the patient, or it soon develops into malignancy. Of 10,000 and some odd cases reported in the pathological institutes, it has been pointed out that 19.7 have had no metastases after radical removal of the glands.

ANGINA PECTORIS.

By **Stewart R. Roberts, S.M., M.D.,** Department of Medicine, Atlanta Medical College, Emory University.

Angina pectoris is a clinical disease characterized by paroxysms of oppression, pain, or agony, usually originating subternally in the first part of the aorta, and associated with mental impressions of danger and death, and variable sensory, motor, and secretory reflexes.

Classified according to the location of the pain, cases fall into three divisions: (a) Thoracic or substernal, in which the pain remains beneath the sternum, or bores through to the back, along or to the left of the upper four dorsal vertebrae. The anginas of oppression and of pain are the most common thoracic types, and the angina of agony is usually a diffuse type. (b) The extra-thoracic types are more difficult of diagnosis at first. The sudden pain in the left arm or hand is not easily diagnosed as angina in the absence of substernal suffering. Allbutt records a case of a man, aged 45, heart normal, who suffered with paroxysmal attacks of pain in both palms, left worse, and who later developed classical angina with substernal

pain. One of my cases of angina of agony had one severe attack with the heart thrown into a delirium of beats, pain in the neck, head, arm to fingers, and thighs to legs, and no thoracic pain. Another between severe attacks would have pain from left shoulder to fingers when the pressure was taken on the right arm. Her pressure was 250 m.m. Epigastric angina occurs rarely, is sub-diaphragmatic, but later may ascend to a substernal position, a "rising up" of the pain. One case began the attack with stab-like epigastric pain, followed by a sense of distended stomach, and inability to belch, and a sudden ascension to mid-sternum and reflex to left arm. It is difficult of diagnosis at first, and is to be separated from gastralgia, colic, ulcer, and gastric crises of tabe. (c) The diffuse type usually is felt subinternally in the upper two-thirds, inclining at times to the left and radiates rapidly to the left shoulder, along the inner arm, elbow, and fingers, or it may not go below the elbow. The back, neck, occiput, teeth, or jaws may feel it. In severe cases both arms and shoulders are involved. The greatest variations exist in these sensory reflexes, and in the same patient the sites of the pain may vary with each attack. It may appear in toe, calf, testicle, or crown of head.

Measured by the degree of the pain, cases fall into three types: (a) The Angina of Oppression, the least severe. This takes the form of a substernal fullness, weight, or oppression, and is not to be classed as pain. Allbutt calls it the "first muffled aortic groan." It may occur in excitement, passion, public speaking, anger, exercise, and indicates aortic tension, the opposite of the slackness of the dynamic aorta. It often signifies high pressure and early aortitis, and is often the first sign of later more severe attacks. In advanced middle life it often develops in men working under high pressure for a long time. In a physician of 56, it developed whenever he hurried. It is a serious symptom of advanced renal arteriosclerosis after the patient is confined to house and bed, and complains of days of constant substernal oppression. In two cases it foreshadowed the angina of pain and sudden death. This type is frequently overlooked.

(b) The Angina of Pain, of moderate severity. Here the pain may be confined subinternally, or may extend to the back, or be referred to the left shoulder and arm. The pains are usually of short duration, and dis-

appear in passing. One patient called them "sharpshooters, skirmishes of pain." A sudden gasp, or feeling of faintness, weakness, or danger, or even pallor or flushing, may accompany the attacks. The patient stays quiet after they pass, stops when walking, or supports himself and sits quickly. Each pain brings with it a sense of danger, a feeling that something may happen—"danger signals," one called them. The attacks last from a second to days.

(c) The Angina of the body and mind, the most severe, and of greatest danger. Agony of body, compared by women to the agony of child-birth, and so severe that delirium or syncope may ensue, and even transient paralysis. An attack usually begins subinternally as a dull ache mounting quickly to agony, or starts as a stab of agony, rapidly involving the left or both arms, even to fingers, and often the neck, back and legs. Coldness, pallor, flushing, nervousness, air-swallowing, belching, swelling, sweating, spasm of the intercostal muscles, muscle cramp in legs, arms, hands and feet, increased urine, increased or decreased saliva may precede, accompany, or follow an attack. Edema or herpes may develop on the thorax or left arm. One patient had for a week after attack a point of great pain at the upper border of the second left costo-sternal articulation, with excessive hyperesthesia of the left upper pectoral region, upper two-thirds of sternum, both clavicles, left shoulder and left arm to wrist. Respiration is usually shallow, sighings occur, and angina and asthma may occur together. A negro man had acute edema of lungs with attacks, "soap foam," as he said, quickly rising in his mouth. Asthma-like wheezing rarely develops. The pulse may be regular, perhaps of slightly increased tension, or become rapidly arrhythmic, even to massed premature contractions, or auricular fibrillation. "The heart is the one impassive agent in a torture chamber" (Allbutt) in most cases.

2. Agony of Mind—"Any other malady is only to be sick; to have this is to be dying." (Seneca.) There is a feeling of anguish and death not characteristic of any other disease. It is more than fear or apprehension, it is a veritable sense of the presence of death. One patient was anxious to die in each attack, so great was the suffering. The following illustrates a typical attack: A lady, 50 years old, a good liver for years, weight 210, height 5 feet, had suffered for

years with high blood pressure and chronic nephritis. She had two attacks of angina in January, 1916, twelve in February, and three in March, each more severe than the preceding. Following a half hour's flushing of face, at 10:30 on the night of March 16th, she climbed in bed and was stabbed by a substernal pain at the second rib level, and was given $\frac{1}{4}$ gr. morphia. At 10:35 pain had radiated to back, left neck, both clavicles and shoulders, down both arms to finger tips, and calves of legs. Morphia gr. $\frac{1}{2}$ given at this time, gr. $\frac{1}{4}$ at 10:45, codeine gr. 1 at 11, morphia gr. $\frac{1}{4}$ at 11:15, and morphia gr. $\frac{1}{2}$ given at 11:40, before any lessening of pain began. Patient delirious, still, shallow breathing, moaning, hands cramped. At 12:30 continuous pain ceased, but returned in paroxysms to 1:30, when she sank into deep sleep. Pulse 72-80. Respiration 14-20 during attack. At 12:20 pulse weak; patient cyanosed and gr. 2 camphor in oil given. Severe dyspnea at 12:30, and oxygen given for an hour. On March 17th stuporous all day, nauseated, and general body soreness lasted until March 20th, especially upper sternum, left clavicle and left arm. Attack lasted three hours, codeine gr. 1 and morphia gr. $1\frac{1}{2}$ given for relief. Patient could not take the nitrates. This patient continued to have attacks, but the blood pressure dropped from 265 m.m. on January 15th to 190 m.m. on April 11th, and 165 m.m. on October 5, 1916.

Huchard collected eighty theories of angina. The chief hypotheses are: (1) Spasm of the heart muscle. "The heart is a muscle, and its functions flow from its attributes as a muscle." (Heberden, Latham.) (2) Intermittent claudication, on the idea that diseased coronaries furnish enough blood to the heart for ordinary, but not for increased, work, and diminish causes contractile strain, and, therefore, pain. (Burns.) (3) Dilation of a weak ventricle. (Potain, West.) Allbutt remarks that the intra-aortic and not intra-cardiac tension is the cause. (4) A pain of nerve origin, related to neuralgia, neuritis, or vaso-motor disturbance. (Nothnagel.) Vaso-motor reflexes do arise, but they are resultant rather than casual. (5) Anemia of the myocardium, due to diseased coronaries, and the anemia causes the pain. (Jenner, Parry, Frank.) Angina occurs with normal coronaries. (Cohnheim.) Diseased coronaries probably do not cause the disease, but by decreased blood supply weaken the usual-

ly hypertrophied heart muscle, and render it less able to stand the shock of an attack. (Allbutt.) (6) Angina is aortic in origin, and not cardiac, and due to tension in the first part of the aorta, chiefly of its quasi-cutaneous coat, the adventitia. "The supra-sigmoid part of the thoracic aorta is a sort of sensitive tambour to regulate cardiac energy by the mediation of the vagus, is the most prone to produce angina; the lesion must be acute, sub-acute, or issue in tensile adhesion; and it must penetrate deeper than ordinary atheroma does." (Allbutt.) This accounts for the substernal aortic pain, severe like the sudden tension and pain in arterial embolus. One of my cases with angina of effort for two months sank into a status anginosus, stabbing upper substernal pain boring through to back, no extra-thoracic pain, and died in a week. Autopsy showed the gelatinous, elevated, pinkish-red plaques of syphilitic aortitis, the coronaries were closed, an obliterative endarteritis, and yet all the pain had been substernal and aortic, no precordial or cardiac pain.

The substernal pain, allied in kind to that of acute pleurisy, probably originates in the nerve terminals in the connective tissue of the aorta, and passes centrally through the depressor fibers in the vagi. The referred pain is cutaneous, and, as a rule, the greater the substernal pain, the more general the radiation. The segments of the cord from the second cervical to the ninth dorsal may be involved. Pain in the neck passing downward to the clavicle and outward to the shoulder involves the cutaneous nerves coming from the second to the fourth cervical segments; pain along the inner arm, forearm and hand, from above downward involves the intercosto-brachial, and the medial cutaneous of the arm, the medial cutaneous of forearm, and the ulnar; pain in the outer surface of the arm, forearm and hand involves the axillary, the posterior cutaneous of the arm, the muscle-cutaneous, the radial and median nerves. The median and ulnar nerves supply no skin areas until they reach the wrist and hand.

Autopsies show a variety of lesions: (1) Athero-sclerosis of the aorta, valve segments and coronaries with or without occluding endarteritis of the coronaries. (2) Typical aortitis, syphilitic, rheumatic, influenzal. (3) No gross aortic or cardiac lesions. Death is probably due to vagus inhibition. The heart

stops in diastole—a pain, a gasp, and death, even in the first attack in many cases.

Prognosis: The only certainty in angina is the uncertainty. Cases are of three kinds: (1) Recovery may occur in the young; in aortitis, usually syphilitic, when subjected to vigorous treatment, and when the heart dilates or the pressure falls greatly. (2) Death may occur in a first attack, or after twenty years of attacks. (3) The advent of other disease, as apoplexy, may lessen the frequency or severity of attacks. One patient with an average of one attack monthly for years, had only three mild attacks in two years after a hemiplegia. Continued high pressure, with recurring attacks, is of evil omen. Each attack of the angina of agony is a blow to the cardiac reserve, and repeated attacks may stagger the heart into myocardial insufficiency, and the picture of advanced heart failure. Angina occurring in advanced interstitial nephritis, or in high-speed living, is a cry for relief from a straining aorta, and needs heeding if possible. Status anginosus usually results in early death. Three patients died within a week. **Diagnosis:** The chief element is to distinguish between anginal and cardiac pain. The first is substernal from ensiform to episternal notch; the second is to the left in a majority of cases, and usually in the nipple area, but in the past both have been included under the name of "precordial pain." The pains about the heart originating in toxic, nervous, and vaso-motor states, may pursue the same reflex paths as a substernal angina, but the former originate usually about the apex. The sub-mammary ache of mitral disease, the grief ache, the hyperesthetic area over the apex in nervous women, the pain in the left intercostal nerve and muscles, coronary thrombosis and embolism, dry pericarditis, mediastinal growths, are all to be distinguished from substernal angina. Angina pains beginning extra-thoracically are often puzzling until linked with the later substernal pain. Angina is more frequent than is supposed. Flitting sensations of substernal weight and pain are often overlooked.

Treatment: There are three indications: To relieve the pain of the severe attack, to avoid conditions that precipitate an attack, and to lessen the chronic intra-aortic strain. The drugs used to relieve the pain and agony are morphine from $\frac{1}{4}$ to 1 grain, pearls of amyl nitrite, chloroform, or a 1% solution

of amyl nitrite in alcohol by inhalation, or hypodermies of nitro-glycerine. The amyl nitrite inhalations may relieve the angina of pain, and lessen the angina of agony, but in the more severe and long attacks, large doses of morphine are invaluable. It has no substitute in the angina of agony, both to relieve the pain and lessen the shock. It is well for a patient subject to attacks to carry the pearls or the 1% solution with him at all times, and the hypodermic syringe should be at hand when possible. In distended stomach, soda in hot water, hot mustard water, or even a hypodermic of apomorphia, gr. 1-50, is of value. For the pulmonary complications that may arise during the severe attack, morphine answers. For the arrhythmia that may occur, camphor in oil, gr. 2, caffeine, gr. x, or large drinks of coffee, will usually quickly put the heart back to rhythm. In the angina of exertion, rest is the quickest remedy.

To avoid conditions that precipitate an attack: These vary in different patients. Among the more frequent are over and rapid eating, over-distension with liquids, worry, hurry, anger, strong winds, quick chilling. Lincoln's advice "to go slow and go easy" applies to the anginous.

To avoid chronic intra-aortic strain, especially that of aortitis and high pressure states: Here applies the treatment of aortitis and high pressure in general. Brunton's 5 to 10 gr. each of sodium nitrite and potassium nitrate in solution, Janeway's nitro-glycerine in 1-100 to 1-50 gr. dissolved on the tongue, tincture of aconite in large doses of 10 gtt. or more, are useful. Mercury is invaluable in the syphilitic cases. I have never had results from the potassium or sodium iodide except in syphilitic cases, and there mercury is better. Small meals, the high frequency current, long rest in bed, and loss of weight in the fat, often help.

Distribution: The average at death is 63 years. The disease occurs chiefly between 50 and 80. In the registration area there are about 5,000 deaths annually, or 7.3 per 100,000 population. Cases in children are rare, and are usually due to syphilitic or rheumatic aortitis. It is probably more common in cities, but it is generally increasing in America. It is least frequent in negroes, and most frequent in Jews. It occurs in negroes often from syphilitic aortitis, and cases are common in Southern hospitals. The ratio of

men to women is about 9 to 5. It is most common in men leading a life of strain, and in advanced arteriosclerosis with high pressure. Osler's predecessor, Pepper, and successor, Musser, at the University of Pennsylvania, both died with it. Men and women of substance and affairs, advanced age with pressure and sclerosis, and paupers with syphilitic aortitis, furnish the majority of cases. Smokers and eaters are particularly liable. Heberden, of Heberden node fame, gave the disease its name in 1768, but Morgagni and Rougnon had previously studied and described cases.

It is a remarkable fact, confirmed by many observations, that many physicians who have devoted considerable labor to the study of a particular disease have themselves died of that disease. One of the most interesting examples is that of John Daniel Major, born August 16, 1634, in Breslau, a physician and naturalist of no mean ability. Bitten early by the wanderlust, he studied at Wittenburg, took courses at many of the schools in Germany, and finally went to Italy where he received the degree of doctor of medicine at Padua in 1660. Returning to his own country, he resided for a short time in Silesia, and in 1661 married at Wittenburg, Margaret Dorothy, a daughter of the celebrated Sennert. The following year, his young wife was stricken with plague and died after an illness of eight days. Distraught by his loss, Major wandered up and down Europe studying plague wherever he found it in the hope that he might discover a cure for the disease which had bereaved him. Spain, Germany, France and Russia were visited by him. He settled in 1665 in Kiel, where he was made professor of botany and the director of the botanical gardens. He made frequent voyages, however, always in quest of the remedy for plague. Finally in 1693, he was called to Stockholm to treat the queen of Charles Eleventh, then ill with plague. But before he could render her any service, he contracted the disease and died on the third of August.

The bubonic plague of today is identical with the black death of the Middle Ages. Primarily a disease of rodents caused by a short dumb-bell shaped microscopic vegetable, the pest bacillus, it occurs in man in three forms; the pneumonic, which has a

death rate of almost 100%; the septicaemic, which is nearly as fatal, and the bubonic in which even with the most modern methods of treatment the mortality is about 50%. It is a disease of commerce, spreading around the globe in the body of the ship-borne rat. It is estimated that every case of human plague costs the municipality in which it occurs at least \$7,500. This does not take into account the enormous loss due to disastrous quarantines and the commercial paralysis which the fear of the disease so frequently produces.

The disease is now treated by a serum discovered through the genius of Versin. This is used in much the same way as is diphtheria anti-toxin.

Plague is transferred from the sick rodent to the well man by fleas. The sick rat has enormous numbers of plague bacilli in its blood. The blood is taken by the flea which, leaving the sick rat, seeks refuge and sustenance on the body of a human being to whom it transfers the infection.

Since plague is a disease of rodents and since it is carried from sick rodents to well men by rodent fleas, safety from the disease lies in the exclusion of rodents, not only exclusion from the habitation of man, but also from the ports and cities of the world. Those who dwell in rat-proof surroundings take no plague. Not only should man dwell in rat-proof surroundings, but he should also live in rat-free surroundings. The day is past when the rodent served a useful purpose as the unpaid city scavenger. Rats will not come where there is no food for them. Municipal cleanliness may be regarded as a partial insurance against plague. The prayer that no plague come nigh our dwelling is best answered, however, by rat-proofing the habitations of man. Modern sanitary science has evolved a simple and efficient weapon against the pestilence which walketh in darkness and striketh at noonday, and the United States Public Health Service has put this knowledge into practical operation and thus speedily eradicated plague wherever it has appeared in the United States.

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NEWS: Our readers are requested to send us items of news of a medical nature, also marked copies of local newspapers containing matters of interest to physicians. We shall be glad to know the name of the sender in every instance.

ATLANTA, THE CONVENTION CITY.

The prestige which Atlanta enjoys as a city of first rank is discerned in its very appearance, with its modern skyscrapers, its ornate public buildings, its beautiful homes, and other evidences of municipal progress. There is a strong civic spirit among the people which manifests itself at all times for the welfare of the city. The "Atlanta Spirit" is of an infectious nature and inspires all true citizens with a desire to advance the city and her interests whenever the opportunity affords.

Although Atlanta was founded in 1837, it practically began its existence after the Civil War. To rise from its ashes and attain the forefront in the rank of progressive cities within half a century is what Atlanta has accomplished.

If there were any one thing needed to proclaim to the country at large the important position that Atlanta occupies as a business center, the need was filled when the United States Government established a re-

gional bank in Atlanta to serve Georgia, Alabama, Florida, and parts of Tennessee, Mississippi and Louisiana.

The placing there of Emory University and Oglethorpe University made Atlanta the educational center of the Southeast.

Atlanta's altitude is 1,050 feet. This elevation means a great deal, as it insures a fine atmosphere and good natural drainage.

It is the fourth insurance center in the United States; it is the second largest mule market; it has the fourth largest Western Union office; it is a great center of industry, railroads, finance, education, automobiles, publication and commerce. The facilities for local transit include 235 miles of electric railway. Atlanta's building record for the year 1915 shows that 790 dwellings, 29 apartment houses, 232 factories and business houses, 12 churches and 9 public buildings were erected, representing a total investment of \$4,589,214.00.

Conventions almost without number have been held in Atlanta. To the efforts of the civic organizations of Georgia's metropolis much of the credit for securing these important assemblies of men and women is due; but there are other and perhaps more potent reasons why Atlanta receives such recognition. Atlanta is a modern and progressive city, with all the features that the term implies, such as commodious public buildings, handsome streets, complete transportation facilities, fine hotels and advanced methods in all branches of public service. It is an attractive and interesting place, combining love for those things that make a city pleasing to the eye, with opportunity for amusement and diversion. It is a progressive city with a population of 200,000, and in a commercial and industrial way is quite remarkable. To sum it all up, every essential for an interesting visit is provided.

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The interest of physicians the country over has been greatly aroused by the publication of Reprint No. 333 from the Public Health Reports. The article is entitled Bread as a Food and discusses malnutrition and the vitamin content in its relation to pellagra.

The conclusion of the article that a reduced vitamin content of the diet immediately preceded the rapid increase of pellagra in that section is important as showing the cause of the disease, but the influence of the careless and indiscriminate use of soda in cooking as a cause of the reduced vitamin content of the diet is almost equally important. It shows the necessity of the physician giving advice to the housewife in regard to her methods of cooking.

The use of soda in cooking leaves the food alkaline and the alkali destroys the vitamins. If, however, a proper amount of an acid ingredient is used the food is not alkaline and the vitamins are not destroyed. In cooking breadstuffs it has become a custom to use soda only as a leavening agent in certain sections of the country. In these sections pellagra has been prevalent. The physician must take note of this custom and advise its discontinuance.

In other sections milk or sour milk is used with the soda. This is a better practice, but still is fraught with grave danger. The amount of sourness, or lactic acid, must be guessed at and the corresponding amount of soda also guessed. The housewife adds what she considers enough soda to leaven and what she considers enough milk or sour milk to enrich and moisten. As a result the food is most often alkaline. The physicians should advise against incurring these dangers. They can be absolutely avoided by the use of a properly made baking powder using sweet milk if desired. All well known brands of baking powder are manufactured under chemical supervision and are reliable, while the housewife's rule of the methods with soda are dangerous in the preparation of breadstuffs.

Breadstuffs are the principal food material of a great class of the people, and their vitamin content is, therefore, to be husbanded and not destroyed. If "as a result of the economic depressing beginning with the year 1907 the cost of food has increased out of

proportion to the increase in wages, and that the pellagra incidence has also increased considerably since 1907" what are we to expect with the war prices that prevail today which are felt all over the country. From 1907 there took place a reduction in the diet of the people of such foods, as milk, eggs and meat, with a consequent reduction in the vitamine content of the diet. A like reduction is taking place on even larger scale today and, therefore, there is the greater need of husbanding the nutritious qualities of bread and cereal products in general.

In this connection should be considered self-rising flour. This is a product containing soda, salt and an acid ingredient. If properly compounded the soda and acid should neutralize each other and no alkali left in the food to destroy the vitamins. Self-rising flour, however, is being manufactured largely by housewife rule of thumb methods without chemical supervision. It contains phosphate rich in calcium sulphate which latter is undesirable in food products. The use of a standard baking powder and a good flour is cheaper for the consumer and is safe. The latter consideration should overcome the tendencies to laziness to which weakness only self-rising flour caters.

At Augusta, Dr. Joseph Akerman, of Wilmington, N. C., has succeeded Dr. W. C. Lyle, resigned, as director of the University Hospital.

At Alto, Dr. R. E. McClure has succeeded Dr. W. V. Parramore, superintendent of the State Tuberculosis Sanitarium.

At LaGrange, Dr. E. R. Park, who recently resigned his position with the board of health, will engage in private practice.

Dr. Emory R. Park, of the state board of health, is making a plea for the thorough medical inspection of the school children of the state.

At Atlanta, the health board has issued instructions to the city physicians that no addicts shall be given drugs except those considered incurable.

At Covington, while sitting on his front porch Dr. Newt Z. Anderson was fired upon by an unidentified party, who escaped. The doctor was not injured.

At Savannah, Dr. Barnett Cohen, who has recently been serving with the health department as laboratory assistant, has accepted the position of Research Assistant in the Department of Public Health of Yale University.

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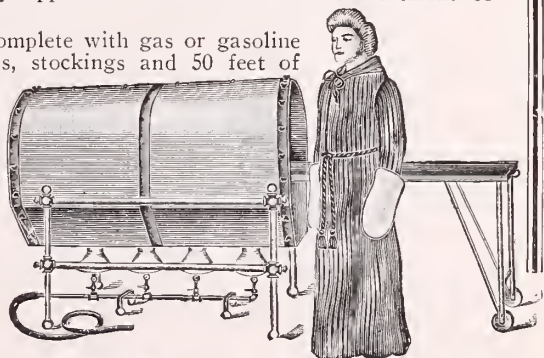
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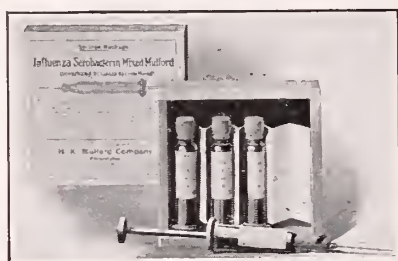
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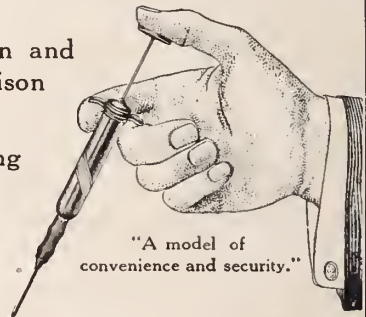
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VOL. VI.

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No. 8

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SOME OBSERVATIONS ON THE DISEASED CONDITIONS OF THE SALIVARY GLANDS AND THEIR DUCTS.*

By Dunbar Roy, M.D.

In medical periodicals we will find very little written about the various pathologic conditions occurring in the mouth as the result of some morbid condition of the various salivary glands. In fact, text-books are very meager in their references to this subject leading one to think that they are exceedingly rare or at least of very little importance. In the last few years I have had referred to me several cases of this kind, and from those observations I am led to think that few physicians realize the importance of the salivary glands and their ducts as obscure causes of various morbid conditions in the mouth and in very many cases these conditions are overlooked entirely. That we

may more clearly understand the subject, I will review in a few words the anatomy and physiology of the salivary glands and refresh our memory with points which we no doubt have long ago forgotten.

The oral salivary glands are divided into two groups. The more important groups constituting the three large pair of salivary glands, the parotid, the submaxillary, the sublingual, together with the numerous smaller glands which are generally found distributed in the mucosa of the oral cavity, and are to be classed in the following groups: The Labial glands in the submucosa of the The labial glands in the submucosa of the buccinator muscle and the oral mucous membrane; the palatine glands, found in the mucous membrane of both the hard and soft palates and especially on the uvula; the molar glands in the mucous membrane behind the last molar teeth and the lingual glands, which are situated beneath the mucous membrane of the tongue. The parotid is the largest of the salivary glands being flattened, somewhat triangular shaped in form, distinctly lobulated and weighs from 1½ oz. to 1 oz. It is situated in front of the lower part

*Read at meeting of Medical Association of Georgia, Columbus, Ga., 1916.

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of the external ear, extending as high as the zygoma and as low as the angle of the lower jaw. It covers approximately the posterior third of the masseter muscle and extends backwards to the external auditory meatus, the mastoid process and the sternomastoid muscle and is lodged in the space between the ramus of the lower jaw and the mastoid process.

Covering the parotid gland is a strong and dense layer of fascia. The parotid gland is important, not only on account of its function, but on account of the relation it bears to the surrounding parts and important structures found within the substance of the gland.

1. The facial nerve. This is the reason why facial paralysis is sometimes seen in connection with mumps or parotitis due to the inflammatory pressure.

2. The temporo-maxillary vein.

3. The superficial temporal vein.

4. The internal maxillary vein.

5. The posterior auricular vein.

6. The external carotid artery and its terminal branches.

7. The great auricular and auriculo-temporal nerves.

The gland is also in relationship with the following structures internally, the internal carotid artery, the internal jugular vein, the pneumogastric, glosso-pharyngeal and hypoglossal nerves. It is on account of this relationship that swelling of the parotid gland, as in mumps, may cause a cerebral congestion by compression of the internal jugular vein. From its relationship to the temporo-maxillary articulation, in severe inflammation of the gland the movement of the jaw is attended by great pain and interference with depression of the jaw. On account of the intimate relationship existing between the parotid gland and that external auditory meatus, it should be borne in mind that a parotid abscess may open into the external auditory canal.

Stenson's duct, the duct of the parotid gland, runs transversely across the face about one-half inch below the zygoma. It pierces the buccinator muscle and opens on the inside of the cheek opposite the crown of the second molar tooth of the upper jaw. The orifice is 2 to 3 mm. in diameter, and is clearly visible under good illumination. Very small probes can easily be passed into the duct to the extent of one or two inches. The

secretion from the parotid gland being exceedingly watery it can frequently be seen projected across the mouth as a distinct stream accompanying only the ordinary examination of the throat.

The submaxillary gland is the next largest of these glands, lobulated in character and situated in the submaxillary region below the lower jaw and above the digastric muscle. It is really situated on the floor of the mouth underneath the tongue deep in the muscular structures. It is in close relationship with the infra-maxillary branches of the facial nerve, artery vein, and hypoglossal nerve. Its duct is known as Wharton's duct, about two inches long and with its opening on each side of the frenum of the tongue, on a distinct ridge of membrane half way between the tongue and the teeth. This duct can also be readily probed. Some of the ducts from the sublingual gland open also in Wharton's duct, one especially known as the duct Bartholini. The fluid from this gland is both serous and mucoid in character.

The sublingual is the smallest of the salivary glands. It is lobulated and about one and a half inches in its longest diameter. It lies immediately below the mucous membrane of the floor of the mouth at the side of the lingual frenum and produces an oblong eminence distinctly seen when the top of the tongue is raised. Its outer border is lodged in a depression in the body of the lower jaw called the "sublingual fossa." This gland has no common duct, but its secretion is poured out into the mouth through ten or fifteen small ducts which empty on the ridge on each side of the frenum. These ducts are known as the ducts of Revinus. The secretion from this gland is almost entirely mucous, so that its consistency is clear and ropy just like syrup. It is not my purpose to discuss the physiology of the salivary glands because the subject is no doubt far more familiar to many of you than it is to me—suffice it to say that their secretions play no unimportant role in the matter of deglutition, mastication and digestion. The fact that the secretion from the parotid is richer in ptyalin makes this gland exceedingly important as the producer of this digestive ferment. The fact that the submaxillary and sublingual produce more mucin makes these glands exceedingly important in producing a secretion for the lubrication of the food. All of these glands are rich in nerves and

can be stimulated in various reflex manner. The fact that our mouths sometimes water when we perceive the odor from the cooking of some delicious viand makes us realize that there is some relationship between the olfactory nerves and those of the salivary glands. The stimulation of the chorda tympani in the ear is closely allied with increased salivary secretion which is sometimes seen in cases of severe inflammation of the middle ear. In this case it is the parotid gland which is overactive, as is seen in the character of the salivary secretion which is watery. When the sympathetic nerves are irritated the secretion is thicker, containing much more mucin than is seen in the chorda tympani irritation.

I wish now to speak of some of the occasional pathologic conditions seen and found associated with the salivary glands and their ducts.

Acute inflammation of one or more of these glands is by no means a rare occurrence, especially after infectious diseases, or slow fevers. Acute epidemic parotitis commonly known as mumps, is familiar to all. This is certainly due to some infective organism. It is unnecessary to dwell upon the symptoms and cause of this disease. It has always been a surprise to me that this gland and also the submaxillary were not more frequently infected than seems to be the case because of the open gateway of the ducts leading to the glands. This is probably due to the fact that like the eustachian tube the epithelium lining the ducts have a tendency to take all secretions and extraneous substances away from the gland. This is seen in the expulsion of calculi from the mouths of these ducts. Acute infection of the parotid gland sometimes take place where the whole gland suppurates into an abscess. The causes are obscure and the constitutional symptoms are sometimes very marked. When the gland does suppurate pus may find an exit through the natural opening of the duct and pus be seen coming into the mouth. On the other hand, the abscess may break into the membranous canal of the external ear and the discharge be mistaken for a middle ear abscess. I have operated upon two cases where all signs and symptoms pointed to a subperiosteal mastoid abscess and where the operation disclosed an abscess of the parotid gland. In these cases the swelling and tenderness will extend high up over the mastoid

and frequently the differential diagnosis is difficult to make. We sometimes meet with cases where there is a tenderness over the parotid gland, accompanied not infrequently with a little enlargement of the gland recognized by palpation. Many of such cases are due to a stenosis of the Stenson's duct on account of which the parotid secretion is dammed back into the gland.

This stenosis may be due to a swelling of the membrane lining the duct, or it may be due to the presence of a calcareous concretion usually denominated a calculus. Whenever such symptoms exist over the gland we may always make it a rule to examine the opening of the duct inside of the cheek and even sound its lumen by means of very small probes.

A calcareous deposit will be readily detected by its grating sensation and frequently will be located just inside the oval opening. The removal of these deposits will quickly bring relief. Sometimes it is necessary to probe and dilate these ducts in order to establish a free exit for this secretion. Indefinite neuralgia around the ear is by no means infrequent in these cases, and the cause should always be investigated.

I wish to call attention to the sequella or mumps, which is by no means an unreality. This is the occurrence of partial or complete deafness following the disease. I have the histories of a number of such cases showing these to be a central nerve deafness. Such complications must always be considered and do not be surprised, then, at deafness being one of the sequella of mumps.

What has been said in reference to the parotid gland is also true in reference to the submaxillary and sublingual, but especially the former. Acute infection of the submaxillary gland, accompanied by suppuration, while not frequent, cannot be called a rare condition. The mode of infection is varied, but nearly always has its origin from the buccal cavity. This may be from the tonsils, adenoid tissue, teeth and gums and finally idiopathic, just as a suppurative gland is sometimes seen in the neck. This probably is through the lymphatics.

An interesting case came under my observation 18 months ago. A gentleman 28 years old consulted me on account of a severe pain on the right side of his throat with swelling and accompanied with very painful deglutition. We both thought it a severe case of

tonsillitis with probable peritonsillar abscess. On inspection the patient could hardly open his mouth. The right tonsil was swollen and angry looking. The floor of the mouth swollen and brawny. I immediately thought of angina Ludowici. On looking just beneath the tip of his tongue I saw a large amount of pus exuding from the right Wharton's duct beside the frenum. I then pressed over the submaxillary gland on that side and elicited great tenderness. On introducing a probe into the duct its withdrawal was followed with a flow of pus. I then recognized that we had an acute suppurative inflammation of the right submaxillary gland. I attempted to treat this by evacuating the abscess through the natural duct in conjunction with hot poultices. This not succeeding in relieving the symptoms the next day at the hospital the suppurating gland was removed. I show you the specimen. There was an uninterrupted recovery, although the pain and swelling continued for a number of days.

Another case was that of an old lady 68 years old. She was seen in consultation in the country for what had been diagnosed as cancer of the floor of the mouth. I found the floor of the mouth very tender and very much the symptoms of the case previous. Underneath the tongue anteriorly I found a large salivary calculus filling the opening of the right submaxillary duct. It looked just like a fungus, warty growth. With a pair of forceps this was easily removed, followed by a considerable discharge of pus. This continued and the old lady made a good recovery. Such cases certainly indicate that these conditions must be considered in all obscure swellings about the mouth and throat accompanied with a certain amount of pain in deglutition.

Chronic conditions of the submaxillary salivary glands usually manifest themselves by the obstruction of their ducts. This latter may be due to the presence of salivary calculi just as is seen in the case of the parotid gland or from chronic thickening of the mucous membrane lining the duct there may be a membranous obstruction. If this obstruction continues for any length of time there is formed a large sac in the floor beneath the tongue, being nothing more than a large submaxillary cyst and which is called a ranula. This latter varies in size from a small swelling under the tongue to such large proportions that it can be seen bulging on the outside of the

neck below the chin. These ranulas may be confined to one side, but usually involve the whole floor beneath the tongue.

A ranula does not produce pain, but only discomfort of its presence; the larger it is, naturally the more discomfort it produces.

The treatment of this condition varies a good deal according to its size. In those of small degree dependent upon the presence of a salivary calculus in the duct, the real cause can be removed when the calculus has been removed from the duct and in this way free drainage instituted through the natural opening. Strictured ducts can also prevent the outflow of salivary secretions and when long continued can produce the condition of ranula. Small probes for dilating these ducts can be used and in some cases produce a subsidence of the symptoms. However, in cases where the ranula has existed for some time and we have a large dilated sac in the floor of the mouth, nothing short of the destruction of the sac or the production of a permanent fistula will be sufficient to cure the case. If the sac is to be destroyed, the paquelin canterry can be used judiciously. However, there is always danger of wounding some branch of the deep arterial supply in this region, and producing alarming hemorrhage. Then again by this method there may be produced some cicatricial contraction beneath the tongue, which is an unfortunate sequella.

The method of Dr. G. V. L. Brown, of Milwaukee, has appealed to me as being the least radical and in many cases quite satisfactory in its final results. This consists in making a permanent fistula by running a silver wire through the sac, clamping it with a lead shot and leaving it in for months. It can be done under cocaine, is not painful, and the wire can be carried by the patient with practically no discomfort.

One other method of treatment has recently been used by me with most excellent results, and its ease of application will certainly appeal to the majority of physicians. The idea originated with me by having seen the most excellent results obtained by Dr. Gifford, of Omaha, in destroying the lachrymal sac by the use of pure trichloro-acetic acid. My method is as follows: Under cocaine open up thoroughly the ranula sac and empty the same. Wipe out the cavity with normal saline and then with a small piece of cotton on the end of an applicator dip this in pure

trichlor-acetic acid and scour thoroughly the whole inside of the sac. This may have to be repeated several times, but in the one case this has been tried upon, the results were excellent.

In conclusion, allow me to say that this paper was written because it is a subject which has been so much neglected and too little considered in our various text-books, which are supposed to make some reference to this by no means a rare condition.

DISCUSSION ON THE PAPER OF DR. ROY.

Dr. W. W. Battey, Augusta: I would like to ask Dr. Roy if he had temporary paralysis with drawing of the side of the mouth following these operations?

Dr. C. C. Harrold, Macon: There are two or three things about this paper that have attracted my attention. Within the last few months a child was brought to me in Macon from Atlanta after having been seen by a number of Atlanta physicians, with a cyst of the parotid. I would like very much if any of you saw this case to speak of it. This child, a boy, 7 years of age, had a cyst of the parotid gland which was larger than a tangerine orange. There is considerable swelling of the gland, both externally and internally, so that there is marked deformity of the superior maxilla. The mother refuses to have anything done. She will not let the child be probed. She gave a history that this swelling was noticed before the child was six months old, and she and the physician attribute it to an injury produced by the use of forceps. She had a long and tedious labor with forceps delivery.

Within the last few weeks I have seen a rather unusual condition of the submaxillary. It is a case in which both submaxillary glands are involved connected by an isthmus with the flexor submaxillaries. This patient is a Servian refugee. When I saw her I wondered how she had gotten through the Immigration Bureau. It looked as though she had tubercular glands in the neck, but they were not that. These glands were fully as large as the gland Dr. Roy has exhibited and passed around. These enlarged glands were so deforming that I removed both of them and canterized the isthmus when I ligated them.

In one case I had a fistula for three weeks,

but it finally closed without anything being done to it.

Dr. Robin Adair, Atlanta: I have had a curious mix-up with these glands in connection with mouth infection, and so on.

The first case I had was a large, healthy railroad conductor, who came in with both ducts swollen, with high temperature from an infected pocket in a lower central incisor. I recommended the enucleation of both of these glands. I called up an Atlanta surgeon and asked him to give this man a big dose of salts, which he did, and it relieved the condition, and I lost an operation.

The next case was a young man who said that every time he ate he would have intense pain. The glands were not swollen, but there was stenosis. I had to make an artificial opening, but no matter where I cut the duct it would swell again. I finally enucleated the gland and the man never had any more trouble.

Most of the trouble is with extraction of the third molars. The glands around the molar region get infected from the extraction of the teeth and cause the greatest trouble.

In the last two or three cases I have had I have been using the salts plan and find that it relieves them quicker than anything I have tried so far. How does the salts get rid of the infection in these glands? I do not know, but would like to have some one tell me.

Another case I had in a woman was quite curious. It seems that her glands forgot they had a function. Any mucus, any saliva whatever in the mouth would cause great pain at the menstrual period. Formerly, I enucleated a number of these glands, but constant dosing with salts prevents them from having to undergo operation.

Dr. Stewart R. Roberts, Atlanta: A fundamental conception of the anatomy of the parotid gland will explain why there is so much pain in mumps, and why there is so much growth in the parotid gland. If the gland is swollen from any cause, mumps, abscess, new growths, syphilitic gumma, and if the deep cervical fascia be distended and is pulled up under tension, especially since the facial nerve runs in contact with it, we get a typical fibrocitis pain after the manner of an acute pericarditis pain or the pain of pleurisy. It is true, in severe infections of

the mouth, such as pyorrhea or advanced Riggs' disease there can develop infection or abscess of the parotid gland. I have seen two such cases, one of which was referred to me by Dr. Roy, and one that developed in a negro woman in the Grady Hospital. These patients ran a terrific temperature, with a leucocytosis of 20,000 or 30,000. They are in great shock; in fact, the shock is often as severe as abdominal shock, and unless one opens them and drains them quickly, the patients die. One of these patients had an abscess develop and it was not attended to until too late, and the patient died very soon after operation.

This condition of dry mouth Dr. Adair refers to is to my mind exceedingly common. Dr. Barnett had one case to which Dr. Adair referred, and I have a case under my observation now of typical dry mouth. In these cases the tongue is clean, red, coatless, dry, very much after the manner of the tongue seen in cases of pellagra, except the tongue is drier than the pellagra tongue. Furthermore, in the two cases of dry mouth that have come under my observation, unilateral or bilateral, in which the tongue was coatless, red and dry, the local mouth condition has been associated with a systemic condition of great sleepfulness, so much so that the patients could hardly stay awake. Both of the cases have occurred in women. They can not sit down to read or can not sit around a fire without going to sleep.

Dr. J. W. Palmer, Ailey: I have two cases I would like to have Dr. Roy give me some information about. They are sisters, one about 20, a young lady, and the other 35 or 40, who is married. About every four or five months the parotid glands of these women will swell and enlarge to an enormous size. It looks very much as if they had the mumps. An interesting feature about it is that the enlargement always occurs at the time of menstruation. They suffer a great deal, so that it is necessary to give them opiates to relieve pain. I have opened Stenson's duct from which there was a little discharge, and they seemed to get well just as rapidly without treatment as with it. They are relieved in about a week or ten days. They have to call in medical aid in order to allay the pain. Just why this happens and what is the proper treatment for it, I do not know. I simply cite these two cases for the purpose of getting information and advice.

Dr. Albert B. Mason, Waycross: I have had two cases of abscess of the parotid gland following mumps, which were very interesting. The first one was a man, 23 or 24 years of age, who had mumps on one side, and when I saw him I thought, at first, it was a condition of mastoid involvement with the zygomatic cells. I watched him a day or two and could not make up my mind as to the real nature of the trouble, and finally decided I would see if there was pus in the parotid. He said a doctor told him he had mumps and he went about his work and was not confined. I rather doubted the diagnosis, but by this time there was a swelling as large as my fist. I opened and drained it and packed it, and in about ten days he was well.

The other case was a boy, 16 years of age, whose mother kept two or three teachers as boarders and kept the fact that he had mumps quiet because she feared the teachers would quit boarding with her if they knew the boy had mumps. The boy was in bed two weeks and had mumps on both sides.

I was asked to see him one day by the family physician and found the whole side of his face an even mass from the cheek down to his chin, with the eye closed. I opened the parotid in three places, in front of the ear, down on the cheek in about this position (indicating) and away down on the sternocleidomastoid. That thing discharged for three weeks, and it was fully ten days after the opening and draining before that boy could open his eye.

These are the only two cases I have seen, and I have not been able to find any record like this of such severe swelling. I would like to ask Dr. Roy if he has ever seen a case of that kind.

Dr. L. C. Allen, Hoschton: These cases of parotitis and abscess of the parotid gland are most commonly due to mouth infection. Those of us engaged in general practice have seen cases of this sort in connection with typhoid fever where there would be abscess of the parotid gland. In my opinion they are nearly always due to neglect of the mouth, and I have simply risen to call attention to the importance of looking after the mouth in all cases of fever and other conditions where the patient is not able to care for his own mouth. In typhoid fever and other fevers we should never neglect to keep the mouth clean.

Dr. Roy (closing): I have not time in the closing of this discussion to answer all of the questions that have been asked. There are a lot of things I do not know in reference to mouth conditions and never will.

In reference to Dr. Palmer's question as to some relationship existing between the mumps, the menstrual period, and a pathological condition of the parotid gland, I will say that in a large number of instances I think there is a stenosis of the duct and probably the presence of calculi, which are very small, and unless you pass a fine probe and get a grating sensation and know they are there, it is difficult to know what they are.

In my paper I spoke of the condition known as ranula, which has given me a great deal of trouble. I have no doubt that many of you have encountered such a condition yourselves. It consists of a swelling and a cystic condition in the floor of the mouth underneath the tongue. They extend down the side where the whole duct is clogged up and the whole thing is swollen until you find a cystic condition in the side of the neck. In these cases where the condition occurs underneath the frenum of the tongue I have had considerable trouble in dealing with them, and I have not found out any method of treating them which is satisfactory in every case. But in the evacuation of the cystic condition of these ranulae, and even after evacuating and letting the contents out, the question is to destroy the sac. At the suggestion of Dr. Nicholson, I resorted to the use of the Paquelin cautery, and in one case we had such a severe hemorrhage that the boy came near bleeding to death because I thought the deep facial and lingual arteries were cut. We had to take a whip stitch through the tongue and deep fascia of the floor of the mouth. Dr. G. V. I. Brown, of Milwaukee, told me he had used a method which had given him very satisfactory results, and I had him see a case with me. His method consists in passing a copper wire through and through underneath the tongue and having it united by means of lead shot, and leaving the wire in two or three months, four months or even eight months. In some cases he had left the wire in for a year without any difficulty. These patients got along very well, although there was some irritation. I tried a method of my own, and so far as I know there is no record of a similar procedure having been resorted to.

Last November, when I was in Chicago, I saw Dr. Gifford, of Omaha, give a demonstration of destroying the lachrymal sac by the application of pure trichloroacetic acid, so I thought if that could be done with the lachrymal sac why can not it be done for this ranular condition. I have had two cases in which I have obtained excellent results. Every one who has once tried this line of treatment has found it most satisfactory. Under cocaine anesthesia, underneath the tongue I open up thoroughly the ranula, having the patient empty it, which he can do by pressing with his thumb and getting all the contents out, then swabbing out with saline solution until I get all secretion removed. After that is done, I take some cotton, put it on the end of a toothpick, dip it into pure trichloroacetic acid, and swab the inside surface of the ranula. I do that not only once, but once a week, and gradually the mass shrinks down and finally disappears. In the two cases in which I have tried this method the results have been most satisfactory.

"VOLKMAN'S CONTRACTURE, WITH REPORT OF TWO CASES."*

C. C. Harrold, A.M., M.D., F.A.C.S., Macon, Georgia.

The object in reporting these two cases is three-fold. First, to call the attention of the profession to the common cause of this unfortunate class of patients; second, to give a brief description of the present ideas concerning the actual pathological condition present in the contracted member, and, third, to outline treatment as carried out in these two cases, and thereby showing that much can be done for such cases which are generally considered hopeless.

Definition.

This disease (sometimes called Volkmann's ischaemic paralysis), is described by Johnson in his diagnosis as a contracture of muscles in which an actual degeneration of the muscle fibers has taken place.

Etiology.

In the vast majority of cases the condition is caused by bandages being applied too

*Read at meeting of Medical Association of Georgia, Columbus, Ga., 1916.

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tight, especially in fractures. The majority of the cases are in the forearm and the flexor muscles are the muscles generally involved. The bandages being applied too tight, the blood supply of the muscles becomes partially shut off and a "Profound disturbance in nutrition" of the muscles results. It is possible for this to happen when bandages are not applied, and such cases have been reported by men of unquestioned integrity where evidently the cause of the succeeding paralysis and contracture was immediate injury to the blood supply at the time of the accident. Such cases are, however, extremely rare, and unfortunately the other cause is not anything as much so.

Symptoms.

Taking the fractured as the typical case, the general train of symptoms is as follows: As most of these patients are children, generally he will have had some paregoric before the physician sees him, or if he has not, the physician is apt (and I think justly so), to give the child some form of opiate before attempting to do anything with the arm. Consequently, after the arm is set and the bandages are applied, the child is apt to feel the effects of the drugs and the relief of the pain and go to sleep. In many cases the family is told that if the child cries, when he or she awakens, to give him or her more paregoric or codeine. If the child lives several miles from the physician he almost surely leaves "something to quiet him." If the bandages are too tight and the arm begins to swell, as, of course, all arms are apt to do after a fracture if there has been any extensive bruising—the pain returns, sometimes severely and sometimes not so. The child is given more medicine and the swelling becomes more and more intense. Quoting again from Johnson, "The duration of the constriction does not have to be very long to produce degeneration of the muscles; from a few hours to a day are quite sufficient, depending, of course, upon the degree of the constriction."

While this destruction of the muscles is going on the fingers have become swollen and blue, and when the bandages are removed or loosened on account of this there may be present the customary destruction of the superficial layers of the skin with small spots of necrosis. These scars show in nearly all cases. Upon removing the splint the hand will already have assumed the claw-like ap-

pearance as shown in print 1. Detailed description of the contractures will be given in the description of the two typical cases, which will follow.

Pathology.

It is the general consensus of opinion now that the condition is as it was originally described by Volkmann, a primary muscular degeneration with, in some cases, an excess of connective tissue between. There may be secondary nerve degeneration from its being caught in between the hard contracted muscles—but, as Robert Jones has shown, if the muscle condition is improved, the nerve condition improves correspondingly. The ulnar nerve in the forearm is the nerve generally involved and in my second case was markedly so.

Upon exposing these muscles their extreme hardness and their peculiar shining yellow color are almost startling to a surgeon who sees them for the first time. They immediately impress you as being muscles absolutely beyond help and the first impulse is to close up the incision and dismiss the case unimproved.

Treatment will be discussed in detail reports of my two cases, which follows:

Case No. 1. R. A., girl age 6, referred to me by Dr. V. B., with the characteristic history of her having had a simple fracture of both bones of the forearm three months previously. She lived eight miles in the country and he never saw her for several days after having set the arm and having applied anterior and post boards. The mother stated that child complained a good deal of pain the night after the accident, but that same was easily relieved by small doses of paregoric. Customary superficial skin slough took place, as shown by scar on flexor surface of arm, and mother noticed immediately upon removing first dressings that "hand was drawn."

The position of this hand, when seen by me, was characteristic as is shown by stereoscopic print of same made by me in March, 1915, just before operation. When the hand is flexed at the wrist it is possible to passively extend the fingers in all their joints. When the hand is extended even as far as a right angle the last two joints of the fingers and thumb begin to flex and close up the hand, only the meta-carpo-phalangeal articulation remaining extended. The picture of this child being passed around shows the

extreme position of extension which she could take. In this case there was no apparent disturbance in sensation in the hand.

Under ether anesthesia I made a large free incision down flexor aspect of the forearm, coming down on the characteristic hard yellow tough shiny muscles described above. With the exception of the small area of the original skin slough there was no adhesions to skin. The superficial and deep layers of muscles were practically fused together, and it was impossible to completely separate them. This was attempted, however, and the fact that we were able to extend the fingers more and more showed that something was being accomplished. Muscles were not divided transversely, and no attempt made at tendon-lengthening. Arm dressed without splints.

Passive motion commenced on fifth day after operation, and I was surprised to find that same was not very painful and child stood same remarkably well. About two weeks after operation I applied the following splint, a model of which will be shown. It is essentially a long straight posterior splint extending from upper forearm and long enough to go about two inches beyond the ends of the fingers if they were extended, and a hinged anterior or flexor splint not quite as long. Hooks, or small nails, are in the ends of each of these splints and after the splints are applied, either by adhesive or straps or bandages, small rubber bands are hooked over these tending to gradually make a continuous pull on the flexed hand and to pull it up toward an extended position.

In the first case the mother was shown how to apply the splints, being careful to always pad the tips of the fingers. The mother was also shown how to work the fingers and the importance of the same was impressed upon her. The splint was only worn at night, and the mother was told to encourage the child in the use of the same. The splint was worn for three months, save for a short time when the tips of the fingers were too sore.

The second print, taken six months after original one, shows great improvement, and the child is able to use same almost as well as the other hand.

The third print has just been taken and shows condition at present, 12 months after operation.

Case No. 2. R. W. S., male, age 19. First seen by me in May, 1915, eight months after

original injury, which was a fracture of both bones of the forearm, the ulnar being compounded. Contracture in this hand at this time are shown in small prints. Here the hand as a whole could be extended to approximately 45 degrees before flexion commenced. Upon attempting to extend hand beyond this point immediately the little finger, the ring finger and the middle finger began to flex, the little finger most of all, as is shown by accompanying print No. 2. The contracture in this case is suggestive of ulnar paralysis, as is also the fact that the sensation in the ulnar distribution is also slightly disturbed, causing the patient to constantly rub the little and the ring fingers as if they were asleep.

However, a complete absence of involvement of the intrinsic muscles of the hand and the adductors of the thumb made me think that this case was also a primary muscular trouble and the slight sensory trouble with the ulnar nerve secondary.

A small sinus still persisted going down to some small fragments of dead bone in the fractured ulna.

In operating on this case I opened down to the old fracture of the ulna and thoroughly curetted out this dead bone, and then made a large free incision on the flexor surface of the forearm, exposing the flexor muscles. I found these in a similar condition to the preceding case, though the muscles were not quite as hard nor quite as yellow. The ulnar nerve was exposed for about two inches and appeared normal. Muscles were thoroughly stretched after being separated.

After treatment same as in preceding case. Improvement steady, though not quite as rapid as in first case.

Prints Nos. 5 and 6 in this case were taken March 25, 1915, 18 months after injury and 10 months after operation.

Conclusions. As I see it the lesson taught by these two cases is two-fold.

First, realizing that these cases can in the vast majority of cases be prevented by not having bandages too tight or by removing and loosening dressings as soon as patient complains of pain. Also let us remember that it is always dangerous to put on a circular plaster of paris cast in any fracture until after the original swelling has subsided, and better not at all. I think that the realization of this fact has caused a sensible reduction in the number of these cases.

Second, after these cases have resulted, they are not hopeless, but if properly and radically and patiently treated they can be wonderfully improved and a large per cent of them practically cured instead of being left miserable cripples.

Of course, the sooner treatment is instituted the better.

DISCUSSION ON THE PAPER OF DR. HARROLD.

Dr. F. G. Hodgson, Atlanta: I want to thank Dr. Harrold for calling our attention to this condition, and to compliment him on the beautiful results he has obtained. I have seen some of these cases, and certainly this is the most pitiful contracture that can develop. After they have gone a long time it is hard to get any results without an extensive operation in lengthening the tendons. An important point in these cases is to prevent trouble, and trouble develops very rapidly. It often develops within forty-eight hours after the fracture has been set, or in a case where fracture near a joint has been set, we should look out for the possible development of this trouble. The splint may not have been put on too tight in the first place, but swelling will cause trouble to develop. If you put on a circular plaster of paris splint it should be bi-valved, cut on both sides, to allow for swelling. A better dressing for these cases is the antero-posterior coaptation splint, with a layer of plaster in front and one behind, leaving instructions for the parents, if the arm should swell, to call a physician immediately or cut the bandage on each side and allow for the swelling.

The results which Dr. Harrold has obtained are very excellent, and they show the importance of after treatment in fractures. A great many fractures give bad results because the after treatment has not been properly carried out. With proper massage we get much better after effects from these fracture cases.

Dr. Harrold (closing): I want to demonstrate to you how these splints are applied. This is a rough way of demonstrating it. There is no necessity in most of these cases of handling this splint. By bandaging this part down, which should be more padded

than it is, you get a constant pull on the tendons and flexor muscles which have been contracted. Patience is the keynote of the whole matter. The mother of the child is to be instructed to keep up motion day after day and for weeks and weeks. One of these patients, a boy, was anxious to get the function of the arm restored as soon as possible, so he worked out his own salvation, and the mother kept behind the child.

I am very much obliged to Dr. Hodgson for his discussion.

THE IDEAL OPERATION FOR RETRO-DISPLACEMENTS OF UTERUS.*

By **W. W. Battey, Jr., M.D., Augusta, Ga.**

It may be necessary to offer an apology for presenting this subject, the methods of relief being so well known. However, every operator has his preference of the various operations performed for the relief of this condition, and is well able to judge the final results, and select the method that has been most satisfactory in his hands.

Let me review briefly the anatomy of the uterus, especially the "guy ropes," or round ligaments that are concerned in the operation of reposition. Normally the uterus lies in a state of mobile equilibrium. A fixed uterus, whatever its position, is abnormal. The position of the uterus under normal conditions is due to the ligaments. intra-abdominal pressure, the so-called retentive power of the abdomen, and the retentive power of the pelvic floor. The ligaments of the uterus are eight in number, two utero sacral, two utero vesical, and two broad and two round. The utero sacral, utero vesical and broad ligaments are reflexions of the peritoneum containing connective tissues and a variable amount of unstriated muscle fiber.

The round ligaments are muscular structures that pass from internal abdominal rings through the broad ligaments to the uterus to which they are attached just below the cornu. It must be remembered that the round ligaments do not support the uterus, but only balances it. The true supports of the uterus

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are the ligaments attached at the cervico-corporeal junction.

I do not contend that every case of retro-displacement demands operation for its relief. It is quite remarkable how many go through life with retro-displacements and who never complain of any pelvic discomfort. The condition is often discovered accidentally while in search of other conditions. The retro-displacement becomes operable only when it produces a sense of weight and pressure, pain in anus or uncomfortable sensation down posterior surface of the lower extremities, points of the anaesthesia over the thighs, congestion, partial obstruction of the rectum, obstinate constipation, a sensation that bowels can not move or be emptied, the development of hemorrhoids and fissures and more or less prolapse of the rectal mucus membrane, menorrhagia, metrorrhagia, leucorrhoea.

Any operation for the cure of this condition is incomplete unless the perineum is capable of contributing its share of support to the uterus. So to effect a satisfactory result, one should always repair a lax or lacerated perineum.

The operations in common use are as follows: Alexander's, Goffa's, Baldy's, Kelley's, Pryor's, Wylie's, Gillam's, Dudley's and Mann's.

The objections to the Alexander method are: Two incisions have to be made. The operation is limited in its application. It is only in those cases where the uterus is mobile that we can practice this procedure, consequently we have a further disadvantage in that we are not always able definitely to determine the existence of adhesions between the uterus and the anterior wall of the rectum. Should such adhesions exist the uterus, drawn forward by round ligaments, is subject to forces which tend to render the operation nugatory. The round ligaments are sometimes so attenuated as to be of little use in maintaining the organ. In cases of infection the infected ligament may slip back carrying infection in beneath the peritoneum, where it will be difficult to reach, and rendering the operation, as has been proven, not altogether free from danger.

Goffa's operation, done by the vaginal route, consists in taking a kink in round ligaments and stitching kinked portion to anterior surface of fundus. This method is not

applicable in cases of adhesions of uterus to rectum and further the union of peritoneal surfaces is not strong enough to be lasting.

Baldy's operation, perforating broad ligaments and bringing round ligaments around posteriorly suturing together, and attaching to uterus, depends upon peritoneal union.

Kelly's operation of ventro-suspension is imperfect in its final result, inasmuch as the adherence of uterus to the peritoneum of the abdominal wall eventually becomes spun out into a long fibrous cord, which produces serious disturbances, so that when the patient coughs or sneezes, jumps from street car, or from carriage, she must grasp her abdominal wall because of the pain resulting from the traction in such activities.

Gillam's operation consists in drawing the round ligaments through stab puncture of rectus fascia, muscles, and peritoneum and attaching same to fascia. If the operation is imperfectly done and the ligaments attenuated there is likelihood of intestinal obstruction by a coil of bowel becoming caught around the ligament.

Dudley's operation and Mann's operation both depend upon peritoneal union for support.

Pryor's operation, which consists of opening posterior cul-de-sac and replacing uterus and packing cul-de-sac with gauze, depends upon adhesions around utero sacral ligaments for its result. This method is mentioned to be condemned.

The following operation I have used in 68 cases, and I have never had occasion to regret in a single instance its performance. I have had satisfactory reports at different times from at least one-half of the cases. Pregnancy has not been interfered with, nor has there been any recurrence of the displacement.

Operation.

An abdominal incision four inches in length is made in the median line at the usual site between umbilicus and pubes. The patient is then placed in Trendelenbourg position. Adhesions, if they exist, are broken up and uterus is brought to normal position. The round ligaments, at a point about one and one-half inches from the fundus of uterus, or better, at a point which, when drawn up, seems to take up the laxity, is caught in a pair of forceps and made taut. With a needle threaded with fine linen the proximal and

distal ends are stitched together. This gives us a loop of the round ligament. A second and third stitch one-half inch apart toward end of loop are introduced through both sides of ligament and tied, the third stitch being left long. The other ligament is treated in the same manner. Retractors are now removed. At a point about one and one-half inches from pubes the fascia of rectus is opened with the handle of scalpel, rectus muscle is separated from the sheath in the direction of internal ring. One hand is now introduced into plevic cavity. The assistant holds taut edges of peritoneum; the point at which the round ligament enters internal ring is sought for. With a pair of curved forceps the internal ring is entered and the peritoneal investment of the round ligament is dissected downwards and the peritoneum is punctured at a point as near as possible to the first stitch in ligament. The linen stitch left long is caught in forceps and ligament is pulled through artificial opening. With No. 1 chromic catgut the ligament is sutured to under surface of fascis of rectus by interrupted sutures. The other ligament is treated likewise. The abdomen is then closed in layers.

The following points of advantage I contend this operation has over other methods:

First: It does not depend upon peritoneal union for its support.

Second: It does not interfere with pregnancy.

Third: The operation is, in a measure, extra-peritoneal, and there is no likelihood of an intestinal obstruction taking place.

428 Sixth St., Augusta Ga.

DISCUSSION ON THE PAPER OF DR. BATTEY.

Dr. George H. Noble, Atlanta: The title of this paper says, "Ideal Operation for Retrodisplacements of the Uterus." I would like to call your attention to the fact that there is no one operation suitable for all retrodisplacements of the uterus. In a discussion before the American Gynecological Society at Hot Springs, Va., some years ago this question was up, and each man had one operation for all purposes, and I called attention to the point that no one operation was suitable for all retrodisplacements of the uterus, even though I had one of my own, I did not apply it to all cases. You must first study the lesions that are present and cor-

rect them as far as possible. In a great many cases shortening of the round ligaments is altogether unsatisfactory. It is satisfactory where the ligament is sufficiently developed and where relaxation is confined to the upper zone of the pelvis. If the ligaments are in the middle zone and the utero-pelvic ligaments are lax, the round ligament is not sufficient, you have to make use of the utero-sacrales, and if there is prolapse the operation must be much more extensive. It varies according to the damage done. The operation varies from taking up one set of ligaments or more to suspension and hysterectomy, with much mutilation of the body of the uterus in breaking up adhesions. So it is a wide subject, and one on which one could write a book and not be through with it.

From the description of the operation given by Dr. Battey, it is similar to the one I have been using for some fifteen years, except in some minor points. It is an excellent method for super-retroflexion. It is an excellent thing in connection with retroversion, with a certain amount of descensus if coupled with shortening of the utero-sacral ligaments. But wherever there is a descensus or prolapsus of the uterus, there is no method of fixing the uterus forward that will be satisfactory until you carry the lower pole of the uterus into the hollow of the sacrum and fix it there, because the uterus so nearly balances over the utero-sacral ligaments, say 20 per cent on the cervix, and enl-de-sac that a slight relaxation will cause posterior displacement, especially if the bladder is partially full or if there should be intestine in front of the uterus. Therefore, if there is retroversion, if there is an ydescensus, it is necessary to carry the lower pole of the uterus back into the hollow of the sacrum and fix it there.

As to the detail, I would say, in the first place, that I have come to the conclusion from my own observations of cases I have operated on, and those I have observed afterwards, that all these operations of infolding the round ligaments upon themselves or upon the uterus are worse than useless, so to speak, because they produce harm. In every case I have opened I have found great wads of omentum attached anterior to the uterus, causing great disturbance in the pelvis and also by dragging upon the stomach. For a simple retroversion of the uterus, or one complicated with appendix trouble, the round

ligament operation is preferable. If there is any elongation or stretching of the utero-sacral ligaments, shorten them. Where you can carry the uterus forward, the preference should be given to the round ligament if sufficiently developed, and operations which involve the outer end of the round ligament are the best for the purpose. In other words, I should select this after infolding or anchoring the ligamentous end because the uterine end is made up of prolongations of uterine and muscular tissue. That is the portion you wish to preserve, and that aids in the process of involution and holds the uterus in position. The methods vary very much. Of all round ligament operations, the extra-peritoneal are largely modifications of my own, but I do not think they are any improvements. I do not think the modifications are as good. (Dr. Noble then demonstrated on the blackboard the method he has been using with satisfactory results in correcting displacements of the uterus.)

Dr. Hugh Inman Battey, Atlanta: I believe the method described by Dr. Battey will give as good results in the average case as will be required. I have found in operations on the round ligaments, where kinking was obtained, if we interfered with the blood supply, that is the arterial and nerve supply of the uterus, atrophy of the ligament was likely to take place because of this interference.

I remember one case I had a year or two ago in which this stab operation was done, the ligament brought through the peritoneum, in the dissection, and it was done on both sides. On one side the ligament was entirely atrophied, and one the other side there was a cord about the size of a straw. I feel that when we interfere with the blood and nerve supply of these ligaments we hamper their usefulness.

Dr. W. W. Battey, Augusta (closing): I wish to thank Dr. Noble and Dr. Battey for discussing my paper. I knew that Dr. Noble would discuss it, and that is why I wrote and read the paper. He knows a good deal about this subject, and his opinion is worth having at all times.

In the first part of my paper I pointed out very distinctly that every operator had an individual choice and selected that method which was most satisfactory in his hands. Of course, in conditions where the utero-sa-

crals are markedly relaxed, and there is a degree of prolapsus, it is necessary to take a suture or two in the utero-sacral, but invariably the peritoneal sutures do not hold. Simple retrodisplacements of the uterus, with friable adhesions, without any complications, have in my hands been permanently relieved by this operation.

REPORT OF A CASE OF GUNSHOT WOUND OF SPINAL CORD; LAMINECTOMY, REMOVAL OF BULLET, RECOVERY.*

By W. L. Cooke, M.D., Columbus, Ga.

On January 20, 1916, H. W., a negro man, was brought to me with the following history: On the night of December 25, 1915, while sitting in a chair and leaning over with his head and shoulders resting on a bed, he was shot in the back with a 38-caliber pistol. He immediately fell to the floor, where he lay, until later on in the night some friends put him in bed.

He had complete paralysis of motion and sensation, which lasted several days, when slight improvement began; the improvement lasted about a week or ten days, then ceased altogether. This paralysis involved both lower extremities, rectum and bladder, it being necessary for him to be catheterized for about two weeks after the injury.

Examination on January 20th revealed the following facts: He was a man about 40 years of age, of powerful build, although quite emaciated at this time. He ran a constant temperature of 99 to 101; appetite very poor; urine was continually dribbling, of a strong ammoniacal odor, the bladder having become infected; bowels were moving involuntarily. Slightly to the right of median line, on a level with the spinous process of the 12th dorsal vertebrae, was the scar of the bullet wound, made when he was shot. From his waist line down there were areas of anesthesia and hyperesthesia very irregularly distributed; also irregular areas of paresis. Knee jerk was abolished on both sides. There was no ankle clonus present. He complained very bitterly of a constant aching, boring pain in both lower limbs.

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He had no idea as to the relative position of his feet—in other words, the muscle sense, or power of co-ordination, was abolished.

When supported by some one on either side, he could bear his weight on his feet, and could walk, but was absolutely powerless to steady himself, and when left alone, would fall immediately.

Owing to the fact that his most urgent symptoms were sensory in nature, I reasoned that the greatest lesion was in the posterior segment of the cord; and, carrying this process of reasoning one step further, I decided that, inasmuch as co-ordination was so markedly interfered with, the columns of Goll and Burdorch must be the ones principally involved—as these are the columns mostly concerned in the power of co-ordination. This was beautifully proven by the position in which the bullet was found at operation.

I had two radiographs made—one antero-posterior, and the other lateral, which showed the bullet lying in median line, about the depth of spinal canal, at the level of intervertebral disk between first and second lumbar vertebrae.

I explained to the patient the danger of an operation on the cord in the presence of an infected bladder, and the bed-sore he had over his sacrum, but he decided to have the operation at once.

I made an incision about five inches long over the spines of the vertebrae, so placed that its middle would be over the location of bullet. The spinous processes and laminae of first and second lumbar vertebrae were removed, also the spine and lamina of twelfth dorsal, as this had been badly comminuted by the bullet. I removed several fragments of bone, also two small fragments of cloth, from the spinal canal, which had been carried in by the bullet.

After thoroughly exposing the cord, I introduced a small round needle, and located the bullet lying about 1-4 of an inch beneath the surface of dura. The dura and cord were then split longitudinally over the bullet, and the latter removed together with two small fragments of bone, imbedded in the dura. I then sutured the dura, and also fastened a flap of muscle and fascia down over the cord.

Patient made a very smooth and uninterrupted recovery. In about one week after the operation, the pain in his limbs had entirely disappeared; he had partial control of rectum and bladder; could always tell

when these organs were going to functionate. At this time he could cross each leg over the other—could tell at what point he was touched on either leg.

Patient went home at the end of two weeks and began almost immediately to walk with crutches; he soon put these down and began using a stick.

At the present time, he walks perfectly well with nothing to assist him. He has a slight inability to control his urine at times. He also complains of a slight amount of pain in right leg. Otherwise, he is perfectly normal.

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DISCUSSION ON PAPER OF DR. COOKE.

Dr. Charles E. Dowman, Atlanta: I have enjoyed this report of Dr. Cooke's very much. It illustrates an exceedingly fortunate experience in that he was able to relieve the patient, where the damage that was done was principally from pressure. If the bullet had gone a little farther and had done beginning damage to the cord. I do not believe the outcome in this case would have been so fortunate.

Something like fifteen years ago Spiller, of Philadelphia, rather aroused the neurological world by reporting the ease of a woman who had a gunshot wound of the spinal cord, with complete severance of the cord, according to his report. At the operation the cord was picked up and sutured, and in a year or so this woman had regained the use of her limbs. That looked almost impossible because they took it for granted that there was definite regeneration of the fibers in the spinal cord. At that time Sir Victor Horsley, with whom I was associated when this report came out, suggested that a series of experiments be undertaken to disprove the results of Spiller's claim. So quite a series of experiments were done in his laboratory on dogs, dividing the cord, making hemisection and complete section, the cord sutured, and the animals preserved for a period of months. Later the animals were killed, but before they were killed efforts were made to pass impulses down through the lesion by stimulating the eortical areas of the brain. These efforts were negative. Then the area of the cord was excised and stained for neuroglia tissue and regeneration of the axis with negative results. I do not think there is any

question at all but that it has been finally settled, not only by this work, but by other work, that there can be no regeneration in the cord. It must have been a case where the lesion was of the cauda equina, and the regeneration took place in the fibers rather than in the cord proper. If there is a lesion of the cord proper, either through a fracture or through a gunshot wound or stab wound, and one is thoroughly convinced that there is complete division of the cord, it is useless to subject the patient to an operation.

I have mentioned these experiments because I feel that Dr. Cooke is exceedingly fortunate in having obtained such an excellent result in his case. The bullet and spicule of bone were doubtless exerting definite pressure on the cord, but really did not produce definite degenerative changes in the fibers themselves.

Dr. C. C. Harrold, Macon: I think the main lesson taught by this paper is that we should keep on trying. Of course, all of us who are doing surgery come in contact with these cases more or less, but I am frank to say I have never had a good result yet.

A few years ago Dr. Goodhart, of Mount Sinai Hospital, New York, was visiting in the city of Macon when I was in the charity service at the Macon Hospital, and during six weeks I had five cases of injury to the spinal cord, some stabs and some with bullet wounds. Acting on his advice, I went into all of them without any result. He went back to New York City and said that I was doing more spinal cord surgery than any man in America.

I have had but few cases since then. I have had twelve or fourteen, and have never had a successful result in any of them. But I am going to keep on trying and may be eventually I will strike one where there is no injury to the cord. I agree with the other gentlemen that if you have a definite injury of the cord, you can do absolutely nothing.

Dr. L. S. Hardin, Atlanta: Murphy, in 1905, gave us an axiom as regards spinal injury that when the cord was entirely severed there could be no restoration, as Dr. Dowman has just mentioned. If there is injury of the spinal cord, with complete paralysis below the point of injury, we should wait to see if any function below that point returns. If it should return, it shows there was some nerve fiber, one or more intact, and along this

nerve fiber there would be regeneration of the cord because we know nerve fiber up to the point of the cord is the sheath of Schwann in which are the ganglia or rather nuclei. Beyond that point the fibers do not develop. The sheath of Schwann stops at this point. There is no regeneration of function, either motor or sensory, beneath that point and operation is useless. If there is fracture of the vertebrae, with a blood clot filling in this point, pressing on the cord and causing complete paralysis, then within ten days or two weeks liquefaction of the clot will take place and give you retraction of the clot and relief of pressure, and consequently there may be the resumption of function beneath that point. Then we can remove the fragment and get restoration of the main portion of the cord.

Dr. E. Bates Block, Atlanta: It is not at all impossible for regeneration to take place in the spinal cord after injury. In the first place, regeneration of a nerve does not take place from the sheath of Schwann at all. There is the axis cylinder passing down the medulla with the sheath of Schwann on each side. Regeneration of these nerve fibers does not take place from the myelin sheath, but they do regenerate independently of axones in which you get disappearance of the sheath of Schwann without degeneration of the axis cylinder. This is exemplified in multiple sclerosis in which there is a sclerotic patch which forms a transverse lesion of the spinal cord, but when we look at it under the microscope we find there are still axis cylinders passing through the sclerotic patch to those that are perfectly intact. Furthermore, symptoms of multiple sclerosis never do follow anatomical lines accurately, in that you find a pathway that is entirely obliterated to the naked eye, yet the patch of multiple sclerosis will be carrying on functions in a fairly normal fashion and thus preserving the axis cylinder. As long as the axis cylinder is connected with the sheath its nerve cell is preserved or maintained in injury to the spinal cord; the motor tract is situated in the cortex of the brain, and as long as there is connection between the axis cylinder and nerve cell the fibers can regenerate. If you cut these, what takes place is this: All the rest of the axis cylinders will degenerate and disappear. Now, the growth will not take place laterally from this, but it is going to form a continuous outgrowth from the cut

off ends of the proximal side of the nerve fiber and pass on down until it reaches the ultimate end of distribution, and that is the anterior horn of the spinal cord.

It has been shown by experiment that by taking six dogs and sectioning the sciatic nerve, and then applying the electric current with regularity twice a day, giving electrical treatments, all the six dogs recovered. On the other hand, when they took six control dogs in which no electricity was used, there was no further means of producing improvement except suturing the nerve, and only two of the dogs recovered, and those two were slower in recovering than those that had electricity. By sending a continuous impulse down over the nerve fiber you can produce with more certainty and with greater speed regeneration of that nerve. Of course, it is a difficult matter to approximate these two ends of the spinal cord that have been severed, so that every axis cylinder will slide over other axis cylinders. If it is in the same muscle group the patient can get motion; he may not get the same motion that he had before, but some motion. They can re-educate themselves and learn to use the muscles.

In regard to Spiller's case which I read about at the time it was reported, it was an incomplete recovery from the fact that the patient got some motion and some sensation, which was a regeneration from the spinus ganglia in the vertebral ganglia of the posterior roots, which regenerated and passed the impulses back to the spinal cord and went on regenerating until she got some motion transmitted to the brain. Also, some of the motor fibers regenerated and she got some motion, which is indeed very encouraging as a possibility of recovery. It is not possible by treatment, such as the use of electricity, to bring about regeneration in the nerve fibers of the spinal cord which have been injured, from the fact that no impulse is sent over the nerve fibers, and there is no particular reason why they should regenerate. If a nerve fiber lies idle it loses the power of function; it gradually deteriorates from non-use, and the more we stimulate it, the more results we get.

Let us take these old cases of hemiplegia; there is certainly more or less damage done. Suppose the lesion is in the internal capsule and you have injury and destruction of nerve fibers in the brain; they may be paralyzed

and hopelessly so, yet if you keep making an effort to move these extremities that are paralyzed, if the spasticity is reduced by passive motion, if on the left side you pass nerve impulses down the nerve fibers continuously, they get a surprising degree of improvement.

I saw one case, for instance, where the brain was paralyzed two years. The patient had no motion at all in his left arm or left leg, except a flickering of his thumb, yet under treatment there was marked improvement in motion of the thumb and arm. As I have said, he was paralyzed for two years. This case shows how much can be accomplished by treatment.

I was taught a lesson by osteopaths in this condition. I saw some cases that had not been improving, but under passive motion and massage that had been given them really the improvement was remarkable. It unquestionably did them good. Therefore, massage, passive motion and electricity are valuable in the regeneration of these fibers.

CONSERVATION OF TISSUE—RESTORATION OF FUNCTION, NOT REMOVAL OF ORGANS, SHOULD BE THE AIM OF SURGERY.*

Ey Floyd W. McRae, M.D., F.A.C.S., Atlanta, Ga.

There are certain fundamentals that it seems to me are being lost sight of, or at least relegated to the background, in the tendencies of modern surgery, following the lead of the German school. We seem to be getting away, especially in abdominal and pelvic surgery, from the principles of accurate diagnosis, delicate handling of tissues, the preservation of the abdominal parietes, the prevention of intra-peritoneal adhesions and the saving of useful organs. Rather the tendency seems towards larger and larger incisions, with little regard to the muscle layers and less to their nerve supply; to the making of every operation and exploratory one covering the entire abdominal and pelvic areas.

I can not convince myself that it is right to remove practically every gallbladder that is evidently infected and that contains gall-

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stones. The gallbladder is a useful organ and should be restored to usefulness, in a large proportion of uncomplicated cases, by removing the calculi and proper drainage. Colectomy is an operation that should be done in very exceptional cases, and only by exceptionally skillful abdominal surgeons of wide experience. It is a surgical crime in the hands of the average surgeon.

Accurate methods of diagnosis, estimating the functional activity of the kidneys has brought renal surgery to a higher state of perfection than that of any of the vital internal organs. The work of Morrison, Mayo-Robson, and of W. J. Mayo, have been especially useful and illuminating. Mayo-Robson's muscle-splitting operation, preventing lumbar hernia, and W. J. Mayo's rectangular incision giving abundant exposure for good work.

The making of right rectus incision for every case of appendicitis is surgical devolution instead of surgical evolution. Every right rectus incision, every right or left lateral incision, severs the nerve supply to the recti in proportion to the length of the incision. Such incisions eventuate in flabby parietic muscles and by no means rarely in ventral hernia.

Clinical experience and animal experimentation prove that intra-abdominal adhesions are induced by section of nerves supplying the abdominal muscles independently of visceral trauma. This being true, why should we abandon the McBurney gridiron operation for uncomplicated, acute or interval appendiceal operations, or hesitate to avail ourselves of the better exposure, lessened trauma and exposure of the peritoneum to the virulent infection with practically ideal drainage offered by the transverse incision: leaving out of consideration the much prompter closing of the drainage wounds and the stronger abdominal wall. It is exceptional to find a ventral hernia of consequence following a transverse incision even in the worst drainage cases of gangrenous or suppurative appendicitis.

It is, however, in pelvic organs that surgeons have been most destructive, least considerate of the individual's future. We should not substitute one disability for another. We should not have heedless adhesions, painful scars, weakened abdominal walls, left as a heritage to those who have trusted us, placed their lives and future com-

fort in our hands. It is not enough that patients should survive operative procedures. If they are not left in the best possible condition to enjoy health and comfort, then the surgeon has failed to meet his obligation, to live up to his opportunities. Surgery that does not completely cure is failure if remedial pathology is overlooked, or avoidable morbidity is induced. Operate on others as you would have others operate on you, is the golden rule of surgery.

Marital felicity is the very foundation stone of our civilization; intelligent propagation is the highest destiny of the race. Nature has decreed the perpetuation of the species at all hazards.

The influence of Battey, Tait, and many others of the forceful early advocates of radical operations, still permeates gynecological surgery. These great pioneers in this branch of surgery unwittingly put in operation practices that, in their enmulative destructive consequences, are simply appalling. Could we convoke in one great gathering the army of the marital unfit; could we flash upon the screen a grand panorama of the homes blighted, of the thorns of neurasthenics who fill the offices and sanatoria of the neurologists, treatment gynecologists and general practitioners, we would be shocked, I believe, into more consistent conservative pelvic surgery. We would then be willing in every case to take the time and pains necessary to preserve rather than remove ovaries, tubes and uteri. It takes more time and patience to do conservative than it does to do radical surgery. The immediate results of conservative surgery are less satisfactory to both patient and surgeon, than are the immediate results of radical operations. How different the picture presented two, five, ten years later! The first class are real wives, frequently happy mothers; the second class are de-sexed creatures without interest in life; unhappy, devoid of the hope that makes life worth living to every woman.

Not all conservative operations are successful; nor are all radical operations surgical failures. But I have yet to see a young woman whose ovaries had been removed, who, after several years, did not bemoan the day she fell under the knife of the destructive surgeon. All who consult me have only words of condemnation for the surgeon who did the work. I can not believe that my experience is peculiar. These poor women are

timid and reticent about their unhappy state, and one must be both tactful and sympathetic to draw them out.

I do not advocate attempts at conservation in late menstrual life, or rather after the menopause, when there is danger of malignancy. Conservatism here demands complete removal of all suspicious organs. In young women, however, the problems are quite different.

The real objects of gynecologic surgery, other than life-saving operations, should be to fit women for wifehood; to preserve to them the possibilities of motherhood. Is it not worth, if need be, an extra half hour of even the busiest surgeon's time? To me it seems abundantly to be.

Tuffier's results in ovarian transplantation have been very illuminating, but not sufficiently convincing to induce me to try his methods.

General peritonitis is an infrequent sequel of gonorrhoeal infection. Notwithstanding this fact, operations are advised and performed in the early stages of these specific pelvic inflammatory conditions, and uterus, tubes and ovaries ruthlessly sacrificed, thus sacrificing, in large measure, health and happiness. Many such women get well without operation and subsequently bear children. Others may be relieved by simple vaginal puncture and drainage of abscesses.

Van Sweringen, B., *Conservation in Operations for Acute Inflammatory Pelvic Diseases*, says:

"It must be remembered that structures the seat of acute inflammation tend to more or less complete recovery. The oedema disappears, the discharge lessens and finally disappears and it is not every case that is left with the lumen of the tube strictured and occluded. Even in case they are so left, after the subsidence of the inflammation they may be inoensive and symptomless. Ovaries which are found surrounded by exudate and adhesions may be liberated, the adhesions wiped off, retention cysts evacuated and the ovary allowed to remain. Many of these will subsequently prove themselves capable of discharging ova.

"On the other hand, note the ultra-conservative statements of Ashton (*Prac. Gyn.* 513). 'The conservative modern treatment of infections, involving the uterine appendages and the pelvic structures, is a marked advance in the surgery of the female pelvis.

The former practice of early operative interference in these cases not only was attended by a high mortality, but was responsible for the unnecessary sacrifice of the organs of procreation. The treatment was based upon the following facts: That many patients recover their health and the pelvic organs are spontaneously restored to a normal condition without the aid of operative measures.'

"Ashton also says that even in the presence of gross lesions, as tubal or tubo-ovarian abscess, recovery has occurred, and he adds that this is especially true in septic infections which cause but little injury to the tubal mucosa, and very large pelvic exudates have been known to disappear in time without the aid of surgery.

"It is rather between these extremes that the author finds himself at this time, and does not recommend early operation in any pelvic infection. The danger is greater than if the body is allowed time to deal with the invading germ by establishing its own protecting mechanism.

"On the other hand, one should not allow a large pelvic exudate or a tubo-ovarian abscess to remain until absorbed. That means chronic invalidism. But when once inside the abdomen for the purpose it is wrong to think that all pathology present must be removed by the knife. Ample provision for drainage and the ablation of the original focus will be sufficient and save many a tube and ovary which will result in much greater peace and happiness to the patient."

Humiston, Wm. H., *Conservative Operations on the Ovaries, Including a Report on 112 Cases*, *Trans. Amer. Ass. Obstr. and Gynec.*, 1912, XXV., 243, advocates conservative pelvic surgery, reports 112 cases. Of this number 19 have given birth to 22 children. "If a similar percentage of pregnancies occurred in those patients not heard from, it would increase the percentage to about 28. This, of course, is speculative and can not be used. But in the 19 per cent out of the 112 cases, there is a showing, convincing to a judicial mind, that conservative operations are worthy of general adoption."

Dr. Albert Goldspohn, Chicago, discussing Dr. Humiston's paper, states: "The resection of ovaries is one of the best things that gynecologists do, that is, in the operations that are not for saving life. It is something that has interested me ever since August

Martin in Berlin brought out his first publication on the subject. After that a gentleman in New York did the operation and published it. I was the next man who published anything on the subject west of New York. I have had many tussles in these year with men on that subject, who, on account of a defective technique or bad judgment, had poor results. These were mostly general surgeons. What may be saved and what must be removed? They did not know, and they did not succeed; and others failed because they did not use the right technique. Furthermore, I have had tussles with visionary theorists, who, by making a series of sections of some of these enlarged cystic follicles, would occasionally, not often, find a Graafian follicle in such cysts; and, therefore, this morbid physiology must overthrow and paralyze everything the gynecologist can do. They have said that it is a normal ovary; you must not touch it if it is six times its normal size, and it does not matter how much pain it may cause the patient. It is better to do nothing for her. There are that kind of men in the world. They do not succeed in gynecology, however."

Dr. Francis Reder, St. Louis, concurred in the conservative methods advocated and practiced by Dr. Humiston, as did also Dr. Isidore Sanes, Pittsburg, and Dr. Hugo A. Pantzer, Indianapolis, whose statements in reference to the number of pregnancies following these operations herewith quoted, are well worthy of consideration: "The number of cases operated upon and followed by pregnancy that become known, does not indicate the full percentage actually occurring. The full estimate of the gain by conservative methods should, moreover, include the cases not traceable after operation, and also cases that could conceive, but where conception is countermet by preventive measures. The latter class is large because of the fear of a pregnancy and parturition is uncommonly heightened in the mind of those who have undergone operation for the relief of parturient injuries."

As shown by the above quotations from eminent gynecologists and surgeons, it is clear that gynecologists and surgeons are agreed on the principles of conservative pelvic surgery. Notwithstanding this, scores of ovaries, tubes and uteri are being sacrificed daily by inexperienced and incompetent surgeons who operate early in the midst of acute

pelvic infections; or who have not taken the time and trouble to study pelvic pathology and prepare themselves to do conservative work. I see a great many of these poor patients recently operated upon, or being operated on, in the various sanitoriums and hospitals in Atlanta. Many of them consult me afterwards in the hope of getting what I can not offer, relief or encouragement.

I have done conservative operations on 338 women. Of this number I have been able to get reports from 190; 60 are unmarried; 46 of the remaining 130 have reported pregnancies. Practically all have gone to full term and been delivered of healthy children. One woman has had three children, another two, another has had three or more induced abortions. Another was delivered of a living child by Caesarian section on account of uraemic convulsions. Both mother and child are now in good health. I have written the 148 cases that I have not kept in touch with, and hope to receive definite information from many of them to incorporate in this paper before publication. Of the 338 women, 17 have had subsequent operations done by me or other surgeons. I have only included in this record the women whose pelvic organs were left in a state compatible with future possible pregnancies. It does not include individuals whose tubes or uteri were removed, or where partial hysterectomies were performed precluding pregnancy.

In my work I have resected cystic ovaries, preserving all healthy stroma, suturing accurately with fine catgut. I have endeavored to so separate adhesions, embedded ovaries and tubes as to leave the least possible area of raw surface; hanging up prolapsed ovaries, plicating the ligaments, so readjusting uterus, tubes and ovaries as to approach as nearly as possible the normal arrangement. A very large majority of these women have been relieved of their suffering and restored to all the privileges and enjoyments of healthy womanhood.

338 OVARIAN OPERATIONS. 190 FOLLOWED UP. 60 UNMARRIED. OF THE 130 HEARD FROM TO DATE. 46 HAVE BEEN PREGNANT. SOME SEVERAL TIMES. 148 LOST TRACK OF.

	Total.	Pregnancies.
Both ovaries resected.....	119	10
One ovary and tube removed.....	75	10
One ovary removed, one resected.....	20	5
One ovary resected.....	98	12
Ovary and tube removed, ovary and tube resected.....	6	1
One tube removed, one resected.....	2	1
Ovary removed, tube resected.....	11	4
Prolapsed tube, ovary and uterus Susp.	5	2
Ovary removed, tube resected, myomectomy.....	2	1
	338	46

DISCUSSION ON THE PAPER OF DR. McRAE.

Dr. Willis F. Westmoreland, Atlanta: This subject is too important and this paper too valuable for us to let it go by without a free discussion. The question of conservative surgery presents itself in several phases. First, the absolute pathology of the condition you are operating for, and, second, what the consequence will be if you leave an ovary and a tube. We open a woman and see that she has small multiple cysts of the ovary. If we resect some of the cysts, the woman will become pregnant, but it is certain the rest of the cysts will go on to a definite termination and the woman will come to us or go to some other surgeon for future operation. What is the best thing to do in such a case? Is it best to do conservative surgery at that particular time or remove the ovary and tube at that time? I have opened too many abdomens to convince me that conservative surgery offers any great advantage or advantages. It really calls for the honest judgment of the surgeon and his knowledge of the pathology of the condition, and very often it is a hard and debatable question to decide. Candidly, I have not been able to decide it. I occasionally do a conservative operation, thinking probably that the patient will not come back for a subsequent operation, but she either comes back to me or goes to some one else a year or two afterward. It appears to me, sometimes, when we do conservative surgery, we do it with our hands and face in the pocket. There is not one of you who does not know that these patients go to a gynecologist one or two times before they consult you.

I have operated in the last year on fifteen cases either a second or a third time, these patients having gone to surgeons who had done conservative work upon them. That is one of the issues we have to contend with, and honestly I do not know how to decide it. I try to decide it upon each case as it presents itself, and the only way we can decide is to go ahead and do the best surgical work we can based upon the surgical pathology. Even then, we are liable to make a large percentage of errors, so far as the future welfare of the patient is concerned. If you consider the question from the standpoint of humanity, you will find that not every woman wants to bear children, and

that gives us one point of view. There are others who are anxious to have a chance of bearing children, if possible, and if you do a conservative operation on them they are up against the possibility of having to undergo a future operative procedure. That is a phase of the question which presents itself to us more than anything else, and as I have said, I do not know how to decide it. I decide it in each case as they come to me for their welfare so far as their future is concerned.

Another point that presents itself for consideration is that, according to recent investigations, the cystic cases are the ones that present the most favorable aspect for conservative work, but gradually we are coming to believe that these cysts are the result of infection. We all know—at least I know—that we see many adhesions in surgery after conservative work has been undertaken. I have opened up many a patient after conservative work has been done, and have found a mass of adhesions to the intestines and omentum, with everything in a conglomerate mass around the ovary. Since this new view of infection has been brought before the profession, I can see how easily we can have more adhesions in those cases after conservative surgery has been done. In the first conservative surgery I ever did on an ovary I removed a very small section, and about a year afterwards I opened the woman for appendicitis, as she did not want to have the appendix removed at the time of the former operation. There was simply a string and not an ovary, and there were dense adhesions. I have opened up cases after cystic infection after conservative operation for cystic ovary and found the same ovary as big as my fist, with practically all the structure destroyed. These are illustrations as to what we find after conservative surgery, and it is a debatable point, but my impression is that we do too much conservative surgery. I am doing less of it every year. If the idea of the woman is not that of child-bearing I follow this plan: In multiple cysts of the ovary, in which there is still quite a good deal of the ovarian structure left, I open these cysts when I remove the ovary and put it upon a piece of gauze, open the cysts with an incision and transplant the ovary when finishing the operation. I have operated on six of these cases in the last year, and some of these patients began to menstruate early;

some of them are still irregular in having the period come on, while in others menstruation is quite regular. In two cases the menstruation began two months afterward and has been regular ever since. It may continue indefinitely. The probability is that the ovary, after a few years, will become entirely destroyed by tissue changes, but still it carries them over the period in which these women have nervousness or when it most frequently occurs.

I do not think any one spoke about these extreme nervous cases from the removal of the ovaries. I have never seen in my experience insanity result from extreme nervousness, producing a pathological condition in the woman, whose ovaries have been removed, unless that condition was present at the time of their removal. We hear a lot of papers and a lot of discussions about the mental and psychological and nervous effects from the removal of the ovaries. I have traced many of the cases and I have never found a case yet that did not have the stigmata before operation.

Dr. L. S. Hardin, Atlanta: I was associated with Dr. McRae in 1903, and at that time I had the opportunity of seeing quite a few of the cases of the late Dr. Hardon where he removed both ovaries, and the nervous conditions existing in these patients afterwards simply meant hell to the husbands and the visiting doctors.

As to adhesions taking place in pelvic surgery, I have been associated with Dr. Crowe at the Grady Hospital for six years and have assisted Dr. McRae, and it has been my fortune to have opened a few of these cases secondarily, some for injury and others for Caesarean section and other operations without finding omental adhesions or pelvic adhesions. I think the day will come when we will select the time for operation in pelvic work as we do for appendicitis. Appendicitis is not operable when we see it. It is operable according to the conditions that exist. In a case of acute pyosalpinx or pelvic inflammatory condition, if you put the patient on treatment similar to the Ochsner treatment in appendicitis, and unless the inflammatory conditions subside before you undertake operative work, you can remove the adhesions, you can separate them from the inflammatory condition, the pyosalpinx or abscess, retaining that tissue after getting rid of the pathological condition, suturing back

into the uterus. If we add the Lambert type of suturing to these adhesions we can turn the sutures next to the broad ligament and not have a stitch hole that is exposed to omental adhesions.

The greatest thing a patient asks for is health and happiness, and the next thing is the propagation of her kind. When married women go for a period of years without having children, it usually terminates in divorce suits or in a miserable existence.

Dr. McRae has pointed out that we may conserve one tube or a portion of a tube, or a portion of an ovary. We can leave a certain amount of peritoneum or cover the ovary so that we have no adhesions to give trouble afterwards.

I disagree with Dr. McRae in regard to these cases of gonorrheal uteri. Where a woman has pyosalpinx, if you can remove a large part of the tube and leave the proximal portion of it, so that future pregnancy may result, all right, but in a great many of these cases the muscular tissue is permeated with gonococci or by inflammatory tissue resulting from repeated curettement. If the pathological process has disseminated into the muscular tissue the uterus is useless except to keep up continual pus formation. Therefore, I believe in such cases the uterus ought to be removed. If we operate three times or five times for the removal of a recurrent nodule in the breast, or for recurrent infection of the breast, why not once or twice, if necessary, go back into the abdomen and resect an ovary, which I do not think will be necessary if we relieve the cystic condition at the time and prevent the formation of adhesions. If you do that you make life comfortable and happy for the individual as well as possibly save a woman from dying a cancerous death.

I believe in the McBurney incision through which you can separate muscles and take one finger and go in and get the appendix up neatly and do an invagination. In the interval operation, where you have so many symptoms of obstruction of the colon and intestines, with Lane kink and Jackson's veil, perhaps a right rectus incision would be preferable to the McBurney incision, enabling you to remove the Lane kink and the Jackson's veil over the ascending colon or hepatic flexure, if necessary. It is unnecessary to cut nerves in making a right rectus incision,

as by so doing you destroy the function of the rectus.

Dr. Stewart R. Roberts, Atlanta: I would like to say a word or two in regard to this subject from the standpoint of an internist, as partly distinguished from the standpoint of the surgeon, and as a clinician. It seems to me, in the paper presented by Dr. McRae we have a real idea presented by a real surgeon. If a suffering woman should go to a surgeon and ask advice about the investment of a thousand dollars, I think the tendency of a great many surgeons is to give more attention to the investment of that thousand dollars than to the consideration of whether the ovaries ought to be removed or not if that woman has pelvic trouble. I know it is easy to criticize, and that we internists make many mistakes, but if a surgeon should have under his care from one to a dozen women upon whom a radical operation for pelvic disease or the removal of the ovaries has been done, and should watch these women for a period of ten or fifteen years, I think he would agree with Dr. McRae. We internists are practically helpless. We may prescribe ovarian extracts or the rest treatment or corpus luteum, but the individual is sexless. The internal secretion has been forever, and the husband, the children, the internist have on their hands a helpless invalid unto the grave.

As a result of the teaching of Lawson Tait and Battey there has been the indiscriminate removal of ovaries for a period of twenty or thirty years, and if, as Dr. McRae has well said, every general practitioner or physician, or internist in this audience has under his care one or more such helpless women to whom he listens as to their complaints, he knows he is more or less helpless to do anything for them. It is not a question as to whether a patient recovers from an operation. The question is, is that patient improved or permanently bettered through the years as a result of the operation? It is not a question of technic at the operating table, nor it is not a question whether the patient is sent home in two weeks from the hospital recovered or as convalescing from the operation, but it is a question whether that woman is sterile, whether she is to recover her health permanently throughout life. There is a moral question that enters into this subject, and it is easy to be misunderstood, it is easy to criticize, and it is easy to be mis-

quoted. I have felt that some surgeons have quickly operated and removed ovaries because they knew of nothing else to do; but for a woman to go into a consulting room and be told in ten minutes that the only thing to do is to remove her ovaries, and then after they are removed to leave the surgeon and go to her physician as a struggling, nervous patient for the rest of her life, is a thing that calls for serious thought and consideration from us as physicians in general. In the last analysis, as Dr. McRae well said, it is an application of the Golden Rule. If you were in the condition of that patient would you like to be operated on as some of these patients are? In other words, the general surgeon and the gynecologist ought to devote as much consideration and meditation to the removal of the ovaries as they would to the removal of the testicles. (Applause.) There are finally moral and scientific tests. I agree with Dr. Westmoreland in the long run that experience is fallacious and judgment difficult, but we physicians have a growing feeling in our minds from our past experience that we can bring more or less of an indictment against this radical, quick, offhand removal of both ovaries.

Dr. Oliver D. Hall, Buford: This is a very important subject, and in discussing it we feel we are talking about those things which underlie the happiness of the home. I do not speak particularly as a surgeon, but as a general practitioner on the relation of the general practitioner to the surgeon in connection with these cases. We practitioners in the country have known for quite a while the lack of harmony between the general practitioner and the surgeon, and we have stopped to consider where that trouble came from. I find that the younger men who have graduated since we have are less conservative and more inclined to agree with the surgeon and advocate that surgical work be done. Other practitioners who are more conservative are inclined to defer operation on account of unsatisfactory results in some cases following surgical operations in the past. On the other hand, there are those practitioners who are opposed to surgery and stand up in arms against the surgeons, so that I really believe the main factor is not that the general practitioner does not believe in surgery, but from his lack of knowledge of conservative surgery he becomes prejudiced against surgery and does not fa-

vor it being done at all. Conservative surgery is important; it has its place, and it is the duty of the general practitioner to turn his patients over to reliable men who will, at the same time, protect the patients.

As a general practitioner, I wish to say that we ought to urge that surgical work be done more frequently than it is, but there has been so much prejudice against it that we have trouble in advising patients to submit to conservative operations.

Dr. E. P. Merritt, Atlanta: I would like to ask Dr. McRae in what percentage of these cases he thinks the trouble is due to old gonorrheal infections. The one who is responsible for a lot of these pelvic conditions is the woman's husband, he not having been cured of an old gonorrhea. No doubt many of these cases of pelvic infection are due to gonorrhea. A lot of them might be cured with proper methods, such as the use of vaccines, and so forth, when treated without operation. I do not know exactly whether they could or not, but there is no doubt that gonorrhea causes sterility in women and men, and that brings on more trouble. The thing to do is to know how to examine a patient to determine whether or not he is well of gonorrhea before he marries.

Dr. E. Bates Block, Atlanta: This paper is an extremely valuable one, and should help every one to be more conservative in the removal of ovaries.

In regard to what Dr. Westmoreland said about the nervous manifestations, I quite agree with him in a certain respect, although he did not elaborate what he intended to say. The evidences of hypersecretion of the ovary, this excessive activity, the hysterical paroxysms, etc., if they exist after the removal of the ovaries, they were present before operation. In that I quite agree with him. On the other hand, there is another type of nervous manifestations which follow the removal of the ovaries, and those are due in part to the absence of ovarian secretion and in part due to the diminution of thyroid secretion. The ovaries seem to be the activating principle for the secretion of the thyroid gland. In fact, where we find hypersecretion of the ovaries we find hypersecretion of the thyroid gland brought about by the activating principle of the ovary. This is manifested, for instance, in acceleration of the mental processes, in the tremor which exists and the hyperactivity both mental and phys-

ical. Upon the removal of the ovaries we get a subsidence or decrease, as a rule, in the ovarian secretion. We get various hypothyroid symptoms. We get dryness of the hair, and skin frequently, not invariably, but certainly in most cases we find that to be true, other factors not entering to confuse us. We find constipation due to deficient thyroid. We find depression. The patient is depressed, gloomy, and instead of showing activity she shows just the reverse, both mentally and physically.

Now, we find that the administration of either ovarian extract or the administration of thyroid extract will produce very similar results in these cases where the ovaries have been completely extirpated. The main thing about the removal of the ovaries, aside from the great sorrow it is to women not to be able to bear children, is, as Osler says, the chief thing of woman is to get and beget, and that is very nearly true. But aside from this inability to beget, which is the greatest sorrow that can happen to a woman, there is the disappearance of all joy in life which is the most marked and most distinct and distressing symptom. They are very much in the same condition as a doll stuffed with sawdust, and there is no happiness, no effervescence, no joy that comes into their lives after total extirpation. It is very much like the glass of champagne when all the sparkle has been removed, it becomes flat and stale, and their lives are, also.

Dr. W. W. Battey, Augusta: Surgeons have their rights just as well as general practitioners. The remarks made by Dr. Roberts border more or less in my mind on sentimentality. They are quite beautiful, but they are more or less sentimental to me. I am certain that practitioners oftentimes bring their cases of pelvic disease to surgeons to have conservative surgical work done, if possible, and they do this after they have treated these patients for months or even years medically without any result, and when the surgeons suggest to them that it may be possible to do a conservative operation, they are ready to exclaim at once, "Don't take any chances with conservative operations."

I agree with Dr. Westmoreland more or less in what he has said. I think every case is a law unto itself, but I am more or less opposed to conservative surgery from past experience. I have done a great deal of conservative work upon the ovaries. I have

done it carefully; I have sutured the peritoneum well over so there would not be any possibility of post-operative adhesions, and I have found it necessary in the course of six months or a year or so to reoperate for a condition similar to the one operated on before, that is, on account of progress of disease in the large cystic ovary resulting from the original operation. Perhaps I should not say resulting from the original operation, but, at any rate, it is due to the progress of the pathological process in the ovary. Once a cystic ovary more or less, always a cystic ovary. I have had cases in which I have removed one cystic ovary, and have done a conservative operation on the other ovary, and I have had these patients come back to me in a year and insist upon the removal of the other ovary.

Dr. L. C. Allen, Hoschton: I have been practicing medicine for a long time and that experience has not been altogether without profit. I have found it is sometimes better for a patient to endure the ills she has rather than fly to those she knows not of. Let us take these nervous patients that Dr. Westmoreland speaks about, and I entirely agree with him that these patients often have symptoms after operation the same as they did before it was done, but the great trouble is this: That type of case is often operated on where no operation whatever is indicated. I have seen women operated on for hysterical conditions where no operation whatever was indicated, and the patient came back in a worse condition than she was in before, so that I have no criticism to pass upon the surgeon in that regard. I believe, as Dr. Hall has stated, that the very radical and frequently unnecessary operations that some surgeons do have prejudiced the general practitioners against surgical work to such an extent that he often declines to send cases to a surgeon that really ought to be operated on. The point made by Dr. Hall is very well taken and those men who do this kind of work ought to ponder over these things.

Dr. McRae (closing): I would not want to read a paper on this subject if everybody agreed with me. I am very glad, indeed, they did not.

Dr. Westmoreland has discussed the paper more in extenso than any other surgeon. Dr. Westmoreland and I started out in medical school together. We have worked together all these years; we have scrapped together

ever since we began, and we expect to keep it up, and with good humor I do not hesitate to say what I think of him and I expect him not to hesitate in regard to what he thinks of me. I would not respect him if he did not.

The class of cases I have presented to you are different. They are nervous before, but a different type of nervousness develops after operation. I am sure, we would not knowingly operate on normal people. There is no indication for it. But take a woman who is full of energy, more or less hysterical, and who has a pathological basis for it, Dr. Hardin is right not to operate simply or nervousness. It is not the best kind of surgery to remove cystic ovaries completely and just leave a woman without menstruation, without the hope of marital happiness, without the possibility of becoming a mother, because you change her into a type we often call "a woman." I do not know really what the name ought to be, but not woman as we know women and we love women, and unhappiness follows in the wake of these operations, not occasionally, but practically always when they are done on young women.

As to the results from conservative surgery, they will depend very largely upon proper judgment in the selection of cases, and here judgment is worth a great deal. It is a question of judgment and of technique. How shall we remove the pathological condition, what shall we save, and in what condition shall we leave the abdomen and pelvis after we have done our surgical work. The surgeon who goes in and operates on a case of subacute or acute pelvic conditions and attempts to do conservative surgery will leave that patient in a bad condition. He will leave adhesions because there is infection behind and it is impossible to cover up the raw surface or surfaces and conserve the tissue. But that is not the type of surgery I am talking about.

As to the financial consideration, I can not conceive of a surgeon who is so immoral as to save any organ in the body with the hope that the patient may come back and be operated again. That type of immorality in a surgeon is beyond me. It may exist, but I do not know of a surgeon who would do a thing like that. I would dislike very much to know that there was a man who, on account of financial considerations, would deal with the lives and future happiness of his patients.

I am very glad Dr. Hardin talked about these cases because he was associated with me when I began to do this work. He kept all my early records. There is one man who did more radical surgery on the ovaries in Atlanta than any other man that I know of, and that was the late Dr. Virgil O. Hardon, and it was his work I followed up so much and that of the elder Battey that made me turn aside from this radical work because I really think with Dr. Allen that many of those patients were worse after operation than before it. He is right about post-operative adhesions and the removal of badly infected uteri. In some cases you can save a good deal of the ovarian structure, while in others it must be removed.

I wish to express my appreciation of what Dr. Roberts, Dr. Block and Dr. Hall have said. They are the men who come in contact with these cases after they have undergone operations, and it is their testimony and I am very anxious to get from the standpoint of results.

Dr. Merritts question is a very pertinent one as to how many of these cases are due to an old gonorrhea. I think a very large proportion of the same due to gonorrhea. I venture to say, that 75 per cent of the cases of pelvic inflammation, pus tubes, etc., are due to gonorrhea. A great deal of conservative work can be done for these patients.

Dr. Battey and Dr. Westmoreland spoke of resorting to operation early. I am very glad, indeed, that they brought out that point. As I stated in my paper, the immediate results of radical surgery are better than the immediate results of conservative surgery. If you operate on these women and turn them aside, some of them will have more pain six months or a year hence than they had to begin with. But if the general practitioner follows these cases up for months and years afterwards, after the real pathology has been removed, it will be found that they will come around all right in the end. The real pathology has been removed and the nervous phenomena will disappear gradually in eighteen months or two years, so that you will have a different picture altogether. You will have patients that are worth while. If you operate on these cases and follow them up a large percentage of them will not need further operative procedures, and you will have a class of women who will lead happy, womanly lives.

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NEWS: Our readers are requested to send us items of news of a medical nature, also marked copies of local newspapers containing matters of interest to physicians. We shall be glad to know the name of the sender in every instance.

CHRISTMAS GREETING.

This Journal extends to every reader, as it has done every year since its birth, its best wishes for a very Merry Christmas. Christmas, the happiest day, as we review the fleeting years, the happiest day in all life's calendar; happy first with childhood's joy of new possessions; happy last in the joy of giving! Upon every physician, the giver of health to the people of our great State, may there rest joy and satisfaction in the consciousness of his God-given, humanitarian service.

ANNUAL MEETING OF COUNTY SOCIETIES.

In December every county society holds its annual meeting. All members should attend and bring dues for the new year of 1917. The secretaries will give thanks and receipts. Cut

the honors and the factions and get some of your live ones in office, men who have energy and interest in efficiency. There are to be elected in each society a president, vice-president, secretary-treasurer, one censor, and in most societies a delegate and alternate.

The new president should at once appoint his committees. The secretary should report the results of the annual election at once to the State Secretary's office.

THE NEXT ANNUAL MEETING.

The next annual meeting of the Medical Association of Georgia occurs April 18th, 19th and 20th, at Augusta, Ga. The titles of all papers to be presented at this meeting must be in the hands of the secretary by March 15th, so that the program may be printed in the April Journal. Only three months remain.

December 6, 1916.

Dear Editor:

The Southern Gastro-Enterological Association was organized in Atlanta on November 15th, while the Southern Medical Association was in session there.

Active membership in this society will be limited to those investigators and practitioners of the seventeen Southern States who confine their work primarily to diseases of the digestive tract.

It will be the policy of the Association to hold its regular meetings annually, the next place yet to be announced.

The following officers were elected: Dr. J. C. Johnson, Atlanta, president; Dr. J. T. Rogers, Savannah, vice-president; Dr. Marvin H. Smith, Jacksonville, secretary-treasurer.

Councillors: Dr. S. K. Simon, New Orleans; Dr. G. M. Niles, Atlanta, and Dr. Seale Harris, Birmingham.

Admission and Ethics: Dr. George C. Mizell, Atlanta; Dr. J. E. Knighton, Shreveport, and Dr. J. B. Fitts, Atlanta.

Thanking you for giving us mention, I am,

Yours truly,

MARVIN H. SMITH,

Secretary-Treasurer.

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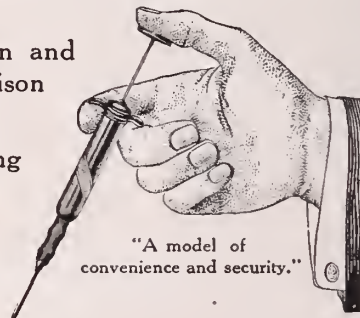
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VOL. VI.

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ACUTE TORSION OF THE OVARY IN YOUNG GIRLS—REPORT OF TWO CASES.*

By H. Stokes Munroe, M.D., Columbus, Ga.

On account of the difficulty of pelvic examinations in young girls acute ovarian lesions are sometimes overlooked.

Before menstruation appears we do not often find any symptoms of pelvic trouble. It is true, however, that diseased ovaries may be found even in infants, and at any time in the life of the female, from infancy to old age.

In the diagnosis of acute abdominal troubles in the lower abdomen of young girls the possibility of ovarian origin should be constantly kept in mind.

The title of this report is "Acute Torsion of the Ovary" because there was every evidence to believe that the normal ovary was twisted on its elongated ligament, until it

was completely strangulated and gangrenous. Of course, there might have been some previous disease or enlargement of the ovary which was the causative factor of the twist, and the great enlargement would suggest this. But a careful section of the organs after removal did not show any evidence of a cystic condition or tumor formation. The ovary in each case was greatly enlarged when removed—about the size of a lemon or small orange, was dark-colored and gangrenous, and one section looked like normal ovarian tissue, greatly engorged and congested by the gradual constriction of its blood supply. No microscopical examinations were made and I regret the specimens were not saved for your inspection.

There was no history in either case of previous ovarian trouble, and my belief is that each of the cases here reported a normal ovary and tube became twisted at their attachment to the uterus. In each of these cases the uterus was very small and infantile in type, scarcely large enough to locate by touch. It is probable that this condition had something to do with the etiology of the trouble. I did not see either case until the

*Read at meeting of Medical Association of Georgia, Columbus, Ga., 1916.

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third or fourth day after the beginning of the attack. In each case the right ovary was involved and on account of the history so typical of appendicitis and the palpable mass and abdominal rigidity in the right lower quadrant of the abdomen, the diagnosis in both was "appendiceal abscess." The appendix was inflamed in both cases, but the inflammation was probably secondary to the peritonitis caused by the offending ovary.

Case 1. I. B., referred by Dr. Brooks, of Geneva, Ga., in September, 1912, age 11. Was taken suddenly Sunday afternoon with severe pain in right iliac region—followed by nausea and vomiting. The following three days there was considerable abdominal pain and rigidity. The temperature and pulse gradually began to rise, and on the third day a distinctly palpable mass could be felt in right side. On the fourth day the girl's abdomen was rigid, a distinct mass slightly below McBurney's point, temperature $101\frac{1}{2}$, pulse 120, tongue foul and heavily coated. No nausea and vomiting. Operation on the fifty day for supposed appendiceal abscess. Right rectus incision made. Considerable peritonitis found on opening peritoneum. Appendix distended and inflamed, but not perforated nor adherent. We removed it. A large black looking mass just below the appendix proved to be the ovary and tube twisted several times at their junction with a very small uterus. The twisted pedicle was carefully ligated close to the uterus and the ovary and tube removed. Abdomen was closed without drainage and the patient made an uneventful recovery. Since that time the young lady has menstruated, but has been somewhat irregular, sometimes skipping several months between periods. The ovary on the other side was normal.

Case II. F. R., referred by Dr. C. A. Dexter, of Columbus, Ga., November 5, 1915. This girl was aged 10. She gave a history of mild attacks—suggestion of appendicitis. September 26, 1915, she complained of indigestion and had colic pains in right iliac region. There was no local tenderness at this time, and her temperature and pulse were normal. On November 2, 1915, six days later, she had severe pains in right iliac region, but no local tenderness. November 3rd, pain was more severe. November 4th, still suffering severe pain, more marked in right side, temperature 102, pulse 120. No nausea and vomiting. November 5th, when I first saw

her, her temperature was 102, pulse 120, tongue foul and coated, lower abdomen hard and rigid. A distinct lump could be felt in right iliac region. Diagnosis of probable appendiceal abscess made and immediate operation advised. She was carried to the hospital for operation. Right rectus incision was made. Considerable peritonitis was found on opening the peritoneum. The appendix was slightly inflamed and was removed. Below the appendix was found a dark-colored mass about the size of a lemon. This proved to be the right ovary and tube attached by a twisted pedicle to a very small uterus. The ovary had been twisted three or four times and the blood supply was completely cut off. This tube and ovary were ligated near the attachment to the uterus and removed. The abdomen was closed without drainage. The ovary on the other side was normal. The patient had a normal convalescence and is now in good health.

DISCUSSION ON THE PAPER OF DR. MUNROE.

Dr. W. W. Battey, Augusta: These conditions are quite common in the early months of pregnancy. I have recently operated upon two cases of torsion of the tube and ovary in about the fourth month of pregnancy. A mass was found on the right side of the uterus, although it was a question as to the real nature of it. I was suspicious that there was an enlarged tube and ovary. At operation the condition found was that of torsion of the tube and ovary with beginning gangrene of them. The tube and ovary were removed in both cases without any interference with pregnancy.

Dr. L. C. Allen, Hoschton: I should like to hear the essayist express himself as to the etiology of these cases.

Dr. Munroe (closing): In regard to the etiology, we all know that torsion of an ovarian cyst is quite common. I do not know, but probably a good deal depends upon the size of the ovary and the pedicle in connection therewith. If the ovary is enlarged there is a natural tendency for it to twist to an angle of 90° . In these two cases I had I do not believe there was any enlargement of the ovary previous to the twist; in fact, the ovaries seemed to be apparently normal. The only way I can explain this is that there

was such a small uterus that you could not palpate it. It was not larger than the end of my thumb. It was much smaller than a uterus ought to be in a girl of that age. Some motions of the body in this infantile uterus may have started the twist and it continued. That is the only way I can explain the cause of it.

CHRONIC AFFECTIONS OF THE KNEE.*

By F. G. Hodgson, M.D., F.A.C.S.
Atlanta, Ga.

The knee is one of the largest and most important joints of the body. It is so exposed that it is frequently traumatised or strained, and in consequence it is the seat of various chronic affections. I wish to deal chiefly with the differential diagnosis of these conditions and to say a word in regard to their appropriate treatment.

1. Chronic Arthritis: By this we simply mean a chronic inflammation of the joint. This may follow an acute infectious arthritis, or may come on gradually as the result of some chronic irritation to the joint. Such irritation may be of **infectious, metabolic, or mechanical** origin. The infection may arise from such sources as old infected tonsils, blind abscesses in the teeth, pyorrhoea alveolaris, old genito-urinary infections or chronic intestinal disorders. The metabolic irritation occurs in those with a so-called uric acid diathesis or the toxic cases, due to what is sometimes called faulty body chemistry. The mechanical irritation occurs in cases where there is some slight, but continuous, mechanical strain on the joint, as in flat foot or acquired knock-knee or some loose body in the knee joint.

The treatment of this condition is, of course, to remove the source of irritation. Clear up old infections of the teeth, tonsils, genito-urinary organs or intestinal canal. Give diet to overcome or prevent the faulty metabolism. Remove any mechanical strain by suitable braces or operation. Give local treatment in the form of baking in an electric baker, massage, stretching of contracted tendons, educational exercises or gymnastics to strengthen the joint.

2. Villous Synovitis: In this condition there is a hypertrophy of the synovial membrane with fringe-like or polypoid growths extending into the joint. These growths are composed chiefly of fatty and fibrous tissue covered with synovial membrane. These patients have recurrent attacks of fluid in the joint and pain due to the pinching of these villi between the bones. Also complete extension of the joint becomes impossible on account of the villi becoming crowded in between the bones.

The treatment of these cases consists in relieving the acute attacks of synovitis by rest, hot applications, pressure bandages, etc. If the amount of fluid is large, aspirate—later baking, massage and exercise are used with benefit.

In the recurrent cases which are not relieved by conservative methods, open operation is the only resort. Removal of the villi which interfere with the joint action, or better, complete capsulectomy is done (Murphy). The patient should be warned that more or less stiffness and limitation of the motion of the joint may result from this operation.

3. Arthritis Deformans: This is characterized by slow onset, and is usually polyarticular. There is thickening of the tissues in and around the joint, atrophy of the cartilage, marked stiffness and gradual deformity. The joints of the hands and feet are usually involved. Unfortunately, no treatment has been devised which will cure these cases. Marked benefit, however, results in many cases by proper treatment. Every possible source of chronic infection should be investigated, especially the teeth. Local treatment, by massage, baking, etc., aid in the early cases. In later stages, when ankylosis and deformity have taken place, manipulation under anaesthesia can be done to get rid of the deformity or to place the joint in a more favorable position for use. Arthroplasty could be done to mobilize these stiffened joints, but this is of doubtful benefit in the chronic invalids. It should not be undertaken unless the disease has been quiescent for a long time.

4. Ankylosis of the Knee: This may be either fibrous or osseous. The patella only may be united to the femur, or the tibia united to the femur, or all of these bones may be involved. It may be caused by an acute infectious arthritis, especially if the

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acute trouble began with a chill (Murphy). It is especially apt to follow a severe gonorrhoeal arthritis. It occurs in tuberculosis of the knee, also in arthritis deformans.

The best treatment of this condition is, of course, preventive. An acute arthritis of the knee should not be put up in plaster of paris. This favors the formations of adhesions and ankylosis. Also it should not be incised and drained except as a life-saving measure—this is sure to result in the destruction of the synovial membrane and subsequent ankylosis. Traction to separate the joint surfaces with aspiration and injections is better treatment.

After ankylosis has occurred, if the knee is straight or nearly so, one must decide whether it is better for the patient to have a stiff knee in good position or undertake an operation for mobilizing the joint or arthroplasty. The new joints are not always entirely satisfactory—they may be painful and more or less unstable. The question should be freely and honestly discussed with the patient and allow him to make his choice.

I would not advise arthroplasty in an old tuberculous knee, on account of the danger of starting up the old trouble.

If ankylosis has occurred in a bad or useless position, it may be corrected by manipulation under anaesthesia, or by osteotomy followed by plaster of paris.

5. Dislocation of the Semilunar Cartilage:

This always follows some accident or trauma, usually the internal cartilage is separated from its attachment to the tibia. The patient falls, and feels a sudden sharp pain over the attachment of the cartilage—very often the knee is “locked” in flexion and can not be straightened. Usually it is pulled back into place by some bystander. This is often followed by a mild synovitis with effusion and the knee feels weak for a few days, but one is usually out and walking in a week or so. This does not give the cartilage time to become reattached, so sooner or later, due to some slight strain or misstep, the cartilage again slips out and the patient goes through the same thing over again. These attacks usually continue to recur until some treatment is instituted.

The treatment of the first attack should be to keep the patient's knee at absolute rest for five or six weeks in a plaster cast, then protect the knee for a month longer; this will give the cartilage a chance to become re-

united to the tibia. For recurrent cases, a brace may be worn, but it must be worn constantly and this becomes a nuisance. The best treatment of the recurrent cases, especially in men who must lead an active life, is to remove the loose cartilage by operation. This does not in any way impair the usefulness of the joint and gives permanent relief.

6. Loose Bodies in the Knee Joint: These are sometimes spoken of as joint “mice.” They are composed of calcareous bodies usually derived from a broken off piece of cartilage or bone or fringe of capsule which has become calcareous. The symptoms are recurrent attacks of pain and mild synovitis due to the irritation of the loose body. It may become pinched between the bone ends, or lock the joint.

The only satisfactory treatment is operative removal of the loose body.

7. Fracture of the Spine of the Tibia: This is a rare condition, but a number of cases have been reported by Jones of Liverpool. It is diagnosed by the X-ray. Treatment is by fixation until the fracture heals. Neglected cases give unstable knee joints.

8. Rupture of the Int. Lat. Ligament: This condition, caused by traumatism, gives rise to abnormal lateral motion of the knee. The knee is very weak and patients are very apt to fall, due to the knee giving way. Treatment consists in a suitable brace, which will not allow lateral motion at the knee, or in operation and suturing the torn ligament.

9. Dislocation of the Patella-Recurrent: The primary dislocation is usually due to an accident or traumatism. Later the dislocation recurs, causing the patient to fall. The patella can usually be slipped back in place with very little trouble, but to obtain permanent relief an operation is necessary.

10. Tuberculosis of the Knee: (White Swelling.) This condition is too well known to require a detailed description. The essential features are: Some sources of tuberculous infection, gradual onset, often beginning some days after a mild traumatism, lameness, swelling (intra-articular or peri-articular); pain, atrophy above and below knee, muscle spasm, deformity, abscess and sinus formation.

The X-ray and the tuberculin tests are aids in diagnosis. The treatment is complete rest and fixation, either by brace or plaster of

paris, supplemented, of course, by an abundance of fresh air, sunshine and good food.

11. Syphilis of the Knee: (Charcot's Joint.) There is usually a history of infection. First, there is effusion in the joint, gradual destruction of cartilage, bone and ligaments, also abnormal growths of bone and exostoses. Eventually the joint becomes twice its natural size, its function is entirely destroyed. One of the chief characteristics is its freedom from pain, also abnormal mobility of the joint, especially lateral motion. The treatment is the treatment of syphilis—braces are often of service. In some cases an amputation is advisable.

12. Sarcoma: Juxta articular. This may affect the lower end of the femur, or the upper end of either the tibia or fibula. It often follows a mild traumatism, is rather rapid in growth. Careful examination shows that it is not an involvement of the knee joint, but of the bones near the joint.

A good X-ray plate will clear up the diagnosis. Early operation by excision of the tumor and bone graft or amputation is the only treatment.

13. Chronic Rheumatism or Gout: I have purposely left for last the most frequent diagnosis made of chronic affections of the knee. Rheumatism is usually the **first** diagnosis made, but it should be the **last**. All the above mentioned conditions should be ruled out, before that easiest and most often incorrect diagnosis of rheumatism or gout is made. The diagnosis of rheumatism has been responsible for more serious errors than any other one diagnosis. It has been the pitfall of many a well-meaning, but unwary, practitioner—it has not only caused patients to lose the use of their joints, but has also caused loss of life. So always leave the diagnosis of gout or rheumatism for the last.

I will not go into the treatment of these conditions, as it is too well known to take up more of your valuable time.

DISCUSSION ON THE PAPER OF DR. HODGSON.

Dr. J. G. Dean, Dawson: The question of knee joint inflammation has been one that has interested me very much, and I am very glad, indeed, to have heard this paper, as it gives me an opportunity to say a little about acute synovitis of the knee joint as the re-

sult of a very unusual experience, and one that has been profitable to me. This experience I had some years ago. I refer to synovitis due to mechanical irritation of the knee joint.

There were in our county three children, two in the town in which I live, that got synovitis of the knee joint as a result of doing very much the same thing. The children had been in the habit of going to a barnyard and jumping off of a crib, and one child in so doing developed a synovitis of the knee joint, so that it became necessary to confine the child to bed for several weeks with a plaster of paris cast. There was no return of the trouble in this case. Another was the result of the same thing except that the patient was in the country and jumped down a railroad cut. The other case, and a most serious one, was in my own child which impressed me very much. The children of the public school had the habit of taking their ropes and jumping rope. My child was 9 years of age at the time, and the first thing she called my attention to was the condition of her knee cap or patella which bobbed up

like a ball in water. There was effusion in the joint. I knew what I was up against, and that injury was the result of rope-jumping. We put her to bed. I aspirated the fluid. I had no trouble as a result of that. In six and a half weeks from the time I put her to bed and had applied plaster cast, having her on her back and her legs stretched out, there was relief from pressure in the joint. Then I discovered the same trouble exactly in the other joint. The same application of the plaster cast was made to the other limb and the child kept flat on her back for four or five more weeks. At the end of eight weeks, from the time of the first application, I felt that the first joint, at least, was relieved, and the probability was she could be relieved of the splint, considering the unpleasant condition she was in in being there with both legs pulled out with weights. That was the treatment I applied. Both knee joints seemed to be well—at least, there was no pain. I consequently removed the two splints, and in a short time allowed her to begin using these joints a little. In the course of a few weeks I allowed her to return to school. A relative, who thought a great deal of her, gave her a little bicycle, and in the course of a month we found the condition had returned in the right knee, the one that

had been treated last. As a matter of course, there was no further trouble with the other knee. She was put to bed again. As a result of the return of the trouble we felt we should not turn her loose for a considerable time, so we kept the joint immobilized for two years. We kept her in a splint for eight weeks, and I applied a leather splint and put her on crutches. She went on in that way for months.

I simply bring these cases before you in order that it may do some good, and that you may know what the possibilities are in injuring the knee joint from such playful acts of children in jumping off of houses and in jumping ropes. It was not tubercular, but purely a case of mechanical irritation and treatment carried out in the way I have mentioned.

Dr. Hodgson (closing): I appreciate the discussion of Dr. Dean very much. I said in my paper that we should not put an acute infectious joint in a plaster of paris cast. Rest is the proper treatment for that. It is dangerous to put an acute infectious joint up in a plaster of paris cast because you get ankylosis.

ACUTE DILATATION OF THE STOMACH —REPORT OF TWO CASES.*

J. T. Rogers, M.D., Savannah, Ga.

Acute dilatation of the stomach except after abdominal operation, seems to be of rare occurrence, and in the dilatation after operation we do not have the hypersecretion. We find in looking over literature on the subject that men have had dilated stomach without serious symptoms. As a nation, it is said that the Germans have the largest stomachs. Ewald speaks of one patient who was reported to have vomited 17 3/4 pints at one time.

Portal says the stomach of Duc de Chaunes, one of the greatest gormands in Paris, could hold 8 pints of fluid.

Liebmeyer gives account of a haekman, who was noted for the great amount of beer he could drink at one draught. After being killed in an accident, at autopsy, his stomach was found to have a capacity of 13 pints, but was otherwise normal.

The average normal stomach of an adult holds from 53 to 57 fluid ounces, but as we have just seen, it is possible for a man's stomach to hold several times this amount without discomfort, but these cases are rare. It is also claimed that a once dilated stomach is never again a perfectly normal stomach, though increased muscular power and compensation may be established, so as to make the patient perfectly comfortable.

Ewald claims to have watched four cases from 10 to 12 years, and says that the stomachs have the same capacity that they had in the beginning.

Case One—J. N. B., August 10, 1914; groceryman; age 41; married. Family history, negative.

Personal History—Had diseases of childhood with perfect recovery. No typhoid, pneumonia, or any other severe illness. No syphilis or gonorrhoea. No injury. Drinks beer and some whiskey, but has never been a heavy drinker. This is the first bad attack with stomach.

General Appearance—Rather athletic. Color good, but facial expression one of suffering and anxiety.

Physical Examination—Height 5 feet 8 inches. Normal weight 175, present weight 155. Tongue has slight yellow coating. Teeth good. Gums normal. Tonsils and throat healthy. Chest broad. Lungs clear—expansion 2 1/2 inches. Heart sounds clear. Pulse 85 and of good volume. Heart normal in size. Blood Pressure—Cystolic, 135; diastolic, 80; pulse, 50; hemoglobin, 90%. Liver slightly enlarged. Spleen and kidneys in normal position. Abdomen large and bulging slightly. Not pendulous.

Inspection—Patient in dorsal position shows no sign of tumor or peristaltic waves.

Percussion—Tympanitic sound over great portion of center and left of abdomen.

Palpation—No tumor felt, but waves of liquid could be felt from lower border of ribs to within 3 inches of symphysis. Abdomen fairly sensitive to pressure.

Auscultation—By striking sides of abdomen with hands, splashing sound could be heard over center and left of abdomen.

Present Symptoms—Headache, nausea and vomiting. Heavy aching feeling in stomach. Weakness and loss of weight. Had been troubled with indigestion for about three weeks, but nausea and vomiting came on one week ago. Temperature at 9 a. m., 98; pulse,

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85; respiration, 20; appetite, poor; sleeps, fairly well; bowels, constipated very much. Urine small in quantity and 1030 in specific gravity, otherwise patient is very thirsty and drinks a lot of water, but vomits much more than he drinks. Vomits a slop jar half full every night.

Test meal of rice at 6 p. m. given, and nothing else put into stomach until 9 a. m. next day, 15 hours later. Then tube passed into stomach and 80 ounces, 5 pints of a bluish-green liquid with many grains of rice, was removed.

Analysis of Gastric Juice Showed—

Odor, acetic acid—slight; blood, none; mucus, very little; composition, mostly gastric juice; reaction, acid; H. Cl., 20; Comb. H. Cl., 20; volatile fatty acids, plus; Lactic acid, none; total acids, 42; pepsin, plus.

Treatment—Patient's stomach was washed each morning for about a week and put on light dry diet. Liquids were restricted as much as possible, and patient kept in bed a great portion of time. The only medicine given was some blue mass and calomel pills and 10 drops Tinctura Belladonna three times daily. Patient was fairly comfortable in a week, and after about two weeks seemed well. We heard from him 15 months later, and he had not had any return of the trouble.

Case Two—W. E. S., age 35; piano tuner; married 12 years; has four healthy children; family history, father and mother living and in good health. Lost no brothers or sisters, and no tuberculosis or cancer in family.

Personal History—Has not had typhoid or pneumonia. Had syphilis four years ago, but no symptoms of the disease for two years. Had measles one year ago, was confined to bed ten days, and was very sick three or four days. Has never been very strong since, but has been working most of the time, until the last few days. Has had no cough, or fever. Has had a little indigestion at times for three or four years, but never severe, until the last week. Has never used alcohol in any form.

Physical Examination—Height 5 feet 10 inches; slender; narrow chest; normal weight 130 pounds; now weighs 110; facial expression, pinched and pale, and shows anxiety and suffering. Tongue clean, but tremulous. Teeth very bad; gums red and swollen; lungs clear, except stertorous breathing in left; no rales and no cavity; expansion, 1 1-4 inches; heart sounds clear, but rather weak. Heart

neither dilated or enlarged. Blood pressure—Systolic, 110; diastolic, 70; pulse, 40. Liver, kidneys and spleen in normal position. Hemoglobin, 85%. Stomach lighted with gastro-diaphane and light found to extend from lower border of ribs to left iliac region.

Inspection—In standing position abdomen is large and pendulous. In recumbent position abdomen was flat and flaccid. No sign of tumor or peristaltic waves.

Palpation—Entire abdomen found sensitive to pressure. We thought we felt a small tumor at pylorus, and abdomen seemed more tender at this point.

Percussion—Very little gas was found. Percussion sound being flat except when patient was turned on right side, when tympanitic sound could be heard on left side.

Auscultation—On striking abdomen from above downward and on either side with hands a splashing sound could be heard from lower edge of ribs to within three fingers breadth of the pubic bone. Mostly on left side and center of abdomen.

Present Symptoms—Patient complains of great weakness, nausea and vomiting, headache and dizziness. Has a heavy aching feeling in stomach, which is relieved by vomiting. Patient vomits usually in afternoon and early in mornings. Vomits a great deal more liquids than he drinks, and often vomits food eaten 24 hours before. Patient has suffered a great deal the last week, but has continued on feet, and has been working part of the time. Patient was sent to us by another physician for examination and diagnosis, and he had been under treatment for several days. Patient had vomited nearly all solid food taken for a week. Had been losing weight for two or three weeks, and suffering slightly with stomach, but didn't go to his physician till he began to vomit a week ago.

Constipation extreme; bowels can hardly be moved at all. Temperature, 9 a. m., 97.5; pulse, 90; respiration, 22; appetite good; sleeps, fairly well. Urine normal, except small in quantity and high specific gravity.

Test meal of rice given 6 p. m., and tube passed at 9 a. m., 15 hours later, and 88 ounces, 5 1-2 pints of liquid of a bluish-green color, with many rice grains, was removed. Patient remarked, after stomach was emptied, that he felt perfectly well, with exception of weakness.

Analysis of Test Meal Showed—

Odor, acetic acid; blood, none; mucus, very little; reaction, acid; H. Cl., 15; Comb. H. Cl., 15; total acids, 33; total H. Cl., 30; lactic acid, none; volatile fatty acids, plus; pepsin, plus.

Diagnosis

The diagnosis of pyloric stenosis of cicatricial or tumor origin producing acute dilatation of stomach and hypersecretion was made. Patient was returned to his physician with suggestion of immediate operation, either a pylorotomy or gastro-enterostomy as seemed best when abdomen was opened.

Patient returned to his physician and agreed to be operated on in five or six days. In the meantime he came back to us and asked that we wash his stomach night and morning, till he went to the hospital, as he felt so much better after the washing. This we did, looking forward with great interest to the operation. We gave him no drugs, but had him use high enemas to move bowels, and we took him off liquids with exception of one pint of milk and cream, to be taken in small quantities and put him on light dry diet. He began to improve on this treatment, and when the time for the operation came on, he was lost, both to his physician and to us. The next time we heard from him, he had moved away from Savannah, but was working.

A few months later we heard that he and his wife had tuberculosis, and that they had legally given away their children, and had gone to the state sanatorium for tuberculosis. A few months later, we heard that he had died of tuberculosis.

It is very evident that we made a mistake, in the cause of the dilated stomach. We now think that it must have been spasm of the pylorus caused by a chronic hypersecretion, the spasm causing the acute dilatation. This spasm of the pylorus, as spoken of by Osler and others, could have been the tumor we felt at several different times, but not at all times.

It must have been that after the stomach was relieved of its burden, by restricted diet and drink, and its irritated mucous membrane by frequent washing, that the spasm stopped, and so far as the stomach was concerned the patient became fairly normal again.

But two things we positively know: First—That the man's stomach was too big.

Second—That he had entirely too much juice and rice in it 15 hours after eating or drinking.

DISCUSSION ON THE PAPER OF DR. ROGERS.

Dr. J. W. Palmer, Ailey: Dr. Rogers' paper brings to my mind a case I had experience with. It teaches me it is hard to make an accurate diagnosis of stomach conditions the same as it is in any other organ of the body. This case puzzled the country doctors around our territory. The patient vomited practically everything she ate, and she did not retain enough to keep up her vitality and live. She was finally referred to some specialists on the stomach and was treated for 12 or 18 months for ulcer of the stomach with no results, and at last an operation was advised for the removal of the ulcer of the stomach. Operation was performed, the stomach was opened up, healed ulcer was found, with stenosis of the lower or pyloric end of the stomach. Whether she had an ulcer or not, I do not know, but the doctor said it had healed.

MIGRAINE.*

J. G. Dean, M.D., Dawson, Ga.

As a preface to what I will say on the subject of "Migraine," or "sick headache," frequently so-called, I want to make a confession. I have made no discovery as to cause, effect or treatment of this ancient, and very common malady. In this very fact lies my real object in deciding to write a brief paper on this subject. The more I have, as a physician, to contend with this most unpleasant trouble the more helpless I frequently feel inclined to regard the average situation of most of us in our efforts to prevent or relieve our patients thus afflicted. As a profession we have been for quite a period of years engaged on the preventive side of medicine, and men in no calling have accomplished so much for mankind as has the medical profession in this invaluable work. We have learned to both abort, and prevent many deadly diseases, as smallpox, yellow fever, cholera, typhoid fever, diphtheria, hydropho-

*Read at meeting of Medical Association of Georgia, Columbus, Ga., 1916.

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bia, as well as even to begin to believe the days of the great "white plague," tuberculosis, is nearing the time when it will not be a badly dreaded disease, if, indeed, it should not become a thing of the past, but since the days of Galen, or longer, much has been written and said of Migraine and its treatment, but still that very common bugbear to thousands of mankind remains to puzzle the medical profession as greatly as it did centuries ago. We suffer from its splitting, boring pains ourselves; so do our wives and daughters; so do hundreds of our unfortunate patients, and the attacks persist in reappearing month after month, sometimes of an abortive nature, then again with almost deadly agony. Try as we may the same old story is repeated in the case of many patients next week, or next month, and an appeal is made to the family doctor for relief, and the question frequently propounded as to why we can not prevent the periodic return of this painful condition. We offer suggestions; tell our patient to keep the bowels open, take a cathartic as soon as a prodromal symptom is detected, and add some of the many familiar anodynes, as well as recommend rest in bed and perfect quiet. If we succeed in aborting the trouble thus, and save our patient from that persistent nausea, and frequent vomiting, which is an accompaniment of the severer types, we may congratulate ourselves, for we can not hope for more; that is, I have not been able to accomplish more, if you have, please tell me how you did it. We know its causes are varied; that errors in visual refraction often lead to the trouble; that when such condition is corrected there may come relief. We know the digestive organs play a great part in causing many cases, and we tax our skill in relieving the digestive deficiency, preventing constipation, etc. We find cases of nerve strain from overwork, and strive to induce the patient to restrain the possibility leading to such overwork, or nervous strain. We may succeed in doing much good in all these causes, for there is frequently no great difficulty in applying effectual remedy. But there are many cases which, try as we may, bring disappointment to all efforts to, at least, prevent frequent return. We find many whose attacks are so overwhelmed with nausea and vomiting as that the hypodermic needle and its dose of morphia promise the only immediate comfort to our agonized patient. We find disorders of menstruation in many wo-

men playing a most puzzling part in the cause of many cases of sick headache. I have now in hand several cases of this variety, and the trouble has lasted over many years. One case has not had, I feel sure, less than 300 attacks in a period of 20 years. Her approaching period for menstruation is ever attended with dread, sometimes akin to despair, feeling, as she must, that the ever-returning sick headache is both "sure and steadfast"; that her trusted doctor has proven totally incompetent to play the preventive roll. Just here I will remark that I have consulted many of my brothers as to ways and means of helping, or preventing such a case, but, thus far, to no satisfactory effect. This case, too, is one of the ones complicated by most pernicious nausea and vomiting, as well as having at each return of the menstrual period to suffer more or less severely with a congested and painful ovary. I have tried out all the various anodynes, cathartics, rest in bed, etc., in the effort to avoid the hypodermic needle, but for several years have given up all such as giving promise of relief and scarcely think of any remedy but the needle and its opiate. From one to three days is usually needed to bring an end to the trouble, and, fortunately, the patient never thinks of a dose of opiate until the next ordeal, which is sure to come. With the exception of Migraine this patient enjoys perfect health, but, of course, there is ever present in at least the mind of the doctor the dread of possible drug habit. I have, in this particular case, contemplated the advisability of ovariectomy, but feared to advise it, or, if consented to, to allow it, for even relief from that source is very questionable, to say nothing of possible nervous sequelae to such an operation. This case was chief in bringing me to the decision to place this subject before this convention of doctors. I have allowed myself to hope that some one might have found some treatment which may be of greater consequence than I have been able to hit upon. I may say, in conclusion, that I have tried electrical treatment just a little, hoping for possible psychic effect at least, but with not enough satisfaction to have become its advocate.

DISCUSSION ON THE PAPER OF DR. DEAN.

Dr. J. T. Rogers, Savannah: The doctor spoke about the stomach having something

to do with the number of headaches, and we agree with him that it does, but only in part, and there are three different things we would like to speak of briefly for a moment. If a patient has hyperacidity, that is, a lack of hydrochloric acid, and too much vegetable acids in the stomach, it sometimes causes these headaches. In these cases the general practitioner, who does not have the time and means at his command to make the tests that the stomach specialists can make, we will say that the best way we can give you to make a diagnosis in a simple way is this: If the indigestion from which the patient suffers comes on within thirty minutes to one hour after taking food, it is apt to be due to catarrh of the stomach, with too much organic acids and a lack of hydrochloric acid. In such cases, if you will wash the stomach of the patient every other day, say for thirty days, with salt solution, using a couple of quarts of water, with a tablespoonful of salt, and giving 20 or 30 drops of hydrochloric acid with his meals, you will get great relief from this.

Another condition is where these patients have a supersecretion of hydrochloric acid. We find in some cases this supersecretion of hydrochloric acid is accompanied by headache, and the indigestion will come on, not within one hour after eating, but it is more apt to come on two or three hours after eating. In such cases washing out the stomach does not do much good. You can give the patient about two hours after each meal a pretty large dose of bicarbonate of soda and half a teaspoonful of citrate of magnesium. You can give half a teaspoonful of each of the magnesium and bicarbonate of soda two or three hours after each meal. That will likely stop the headache. If the headache be caused by constipation, the treatment should be different. There are two kinds of constipation that may cause it, one where the bowel itself is at fault. It is inactive and there may be enteroptosis, and in a case like that the new mineral oil, Russian oil, as it is called by some, when given at night in from one to two ounces, or enough to relieve the constipation, will very often relieve the headache; but if the constipation is caused from the liver and the stomach is in a state of enteroptosis, and there is sluggishness of the intestines, then small doses of calomel, say one-tenth of a grain every other night until the patient has taken

three grains, and every night at bedtime one or two teaspoonful doses of castor oil, will do much more good than the mineral oil. So far as the stomach and intestines are concerned in these cases of migraine, we have those remedies that will help us quite a little.

Dr. M. A. Clark, Macon: I wish I knew how to cure these cases of migraine. I agree with Dr. Rogers that if the things he has mentioned are the causes of the migraine we might help to relieve these headaches, but I have never seen a case where I thought they were the cause of the migraine. I wish I could find a case where I thought those were the causes. However, I really believe that some of these days we will know the cause of migraine. Perhaps it is due to faulty metabolism, and the ductless glands, one of them, sometimes the other, is going to be the remedy.

Recently, I have obtained some benefit in a few cases of migraine by the use of the thyroid gland. I do not know very much about it, but I am trying to learn more, and I have not had a large enough experience to be able to give you any special data, but in a few instances of pure migraine, limited in our remedies as we are in treating it, after having tried all other remedies without relief, you can doubtless obtain benefit by the use of the thyroid gland. You begin with small doses of the dry thyroid extract. Ordinarily, I begin with one-half to one grain. In some cases the symptoms are suggestive of hypothyroidism. I am accustomed to combining arsenic because, as a rule, it will prevent unpleasant symptoms which may result from overdoses of the thyroid. As I have said, I begin with small doses and gradually increase them and persist in it and I have in a few instances gotten benefit. The attacks will be milder and the interval will become longer. I have not carried out this treatment long enough to say whether it is permanently curative or not.

Dr. Dean: What do you think of those cases of migraine in which it is dependent upon or due to faulty menstruation?

Dr. Clark: That is a fair question. Menstruation is a nervous phenomenon and plays an important part. The menstrual function necessarily aggravates the condition, and the probability is that the interference of menstrual function is due to the same condition. We do not know just what particular role

these glands play. We do know that the thyroid plays the most important part of any of them, and there is an intimate connection in these cases with the use of the thyroid, and especially in the case that has been described, and in such cases I have gotten some benefit from the use of the thyroid extract.

Dr. E. T. Coleman, Graymont: Dr. Landon Carter Gray, a neurologist in New York, before his death, taught that a large percentage of these cases of migraine were, as Dr. Clark has suggested, due to faulty metabolism and poor elimination. I remember quite well his treatment, and the treatment I have used most constantly ever since, and there is no question but that a large percentage of these patients will be temporarily and in many instances permanently relieved by it. His treatment consisted of dilute nitro muriatic acid in ten-drop doses before meals, and fifteen grains of pure salicylate of soda after meals. His reasoning was that pure salicylate of soda acted better in an acid media. I have largely abandoned the acid part of the treatment, but I have continued the use of salicylate of soda, not the ordinary cheap synthetic preparation, but pure salicylate from the oil of wintergreen. There is no doubt, as I have said, but that a large percentage of these cases will be relieved with that treatment if persevered in. The success of the treatment depends upon perseverance in it. I happened to be a subject of sick headache myself, and I was relieved entirely by something like two months' treatment. I have given some patients this treatment for three or four months.

Dr. Dean: Regularly every day?

Dr. Coleman: Yes, three times a day. My practice has been to give pure salicylate in 15-grain doses between meals, 9 a. m., 3 p. m. and bedtime. The proper amount of laxative should be given. I sometimes combine cascara with the salicylate, using the lacto-pepsin as a menstruum. I am sure, Dr. Dean, you will meet with success to a large extent with that treatment.

Dr. Howard J. Williams, Macon: I only rise to speak of one point in connection with Dr. Dean's paper, and that is to warn against the operation of oophorectomy to cure these headaches. I have never yet seen a woman relieved of a true migraine by an oophorectomy. Unfortunately, the mental and ner-

vous conditions that are brought about by premature oophorectomy are as bad, if not worse, than the migraine from which these women suffer, and I think it would be an unfortunate thing for any surgeon or operator to go into these cases with the idea of removing the ovaries to cure the migraine.

In conversation with Dr. Cabot, of Boston, relative to the question of migraine and these other nervous conditions we so often find, he says about 99 per cent of these cases will continue to have the migraine until they pass the menopause; that 1 per cent may be cured, but he warns against the removal of the ovaries. In the past I have on several occasions allowed myself to consent to operate for the relief of headache by removing the ovaries, and I regretted having done so, and so I would warn any of you against performing oophorectomy for the cure of migraine.

Dr. Dean (closing): I wish to thank the gentlemen very much for what they have said. I hope I have been benefited by the discussion. I shall certainly try the treatment recommended by Dr. Coleman. I was particularly pleased to hear the remarks of Dr. Williams warning against the removal of the ovaries in these cases with the hope of relieving the migraine. I have been afraid to advocate the removal of the ovaries in any of these cases. One case I had reference to was my own wife. She suffers at each menstrual period, either after or during, consequently you can see how deeply interested I am in this particular trouble. I would like to see her relieved, but I have given up almost entirely any hope of her getting relief until she passes the climacteric. I have no idea of consenting to the removal of her ovaries. I have sometimes felt that there is no use in trying anything else except hypodermics of morphin, and I have given them recently. I dislike to do that, and feel inclined to try the older remedies. One physician spoke to me of using chlorid of ammonia, in 20-grain doses, three times a day, in water. He says that his will relieve these patients frequently.

Heavy eating, like heavy drinking, shortens life?

An advertisement in The Journal of the Medical Association of Georgia will bring results. Rates sent on request.

NERVOUS MANIFESTATIONS IN BRIGHT'S DISEASE.*

By Lewis M. Gaines, M.D.

Professor of Clinical Neurology, Medical Department, Emory University, Atlanta, Ga.

Because a patient complains of nervous symptoms, one is never justified in concluding that he is suffering from an essential disease of the nervous system. In fact, few diseases are free from some nervous manifestations. The headaches and delirium of acute infections, the neurasthenic complaints so often seen in early tuberculosis, the neuroses accompanying and following many surgical diseases are all familiar examples. The neurologist must also be an internist, a diagnostician in the broad sense.

In Bright's Disease—particularly in the chronic interstitial form—one may encounter a variety of nervous manifestations not only in the earliest stages of the disease, but during its course. The following symptoms, referable to the nervous system, are of frequent occurrence, many of them being illustrated in the cases I report below. Headache, which may be of the migrainous type, neuritis in various locations, neurasthenia, vertigo, parasthesias, weakness of the legs often associated with feeling of constriction in the legs. Usually classed among uremic symptoms are convulsions, coma, various types of psychoses and local palsies. Such uremic manifestations, however, are closely related to those of Bright's Disease, and should not be considered separately.

I wish to briefly discuss three of the above symptom groups. First, Neurasthenia. This term, which has been greatly abused, is intended to define a condition of chronic fatigue, physical and mental, usually associated with irritability, and various types of discomfort, assignable by the sufferer to different localities, but usually worse in some definite locality. This tendency to subjective localization on the part of the patient has introduced into medicine such terms as gastric neurasthenia, cardiac neurasthenia, sexual neurasthenia, spinal neurasthenia, and a host of others. The important thing, however, is that a diagnosis of neurasthenia is no diag-

nosis at all, and that it is always necessary to ascertain the cause of this collection of symptoms we have called "Neurasthenia." In many cases of Bright's Disease, neurasthenia is an early and persistent feature. Whenever neurasthenia is present, especially in an individual over 40, Bright's Disease should be carefully borne in mind. This matter of neurasthenia and Bright's Disease may be viewed from another angle, and that is the effect of the neurasthenia on the prognosis and treatment. Some observers contend that Bright's Disease is more common in neurotic families. When a neurotic individual learns that he has the disease, his neurasthenia is often intensified, and the course of his renal disease hastened. Walsh relates the case of a medical student, who, during his first three years, was regarded as a neurasthenic, from the multitude and character of his subjective symptoms. No one took the pains to examine his urine. During his fourth year he was asked to furnish a sample of urine, which it was supposed would be normal, for comparison with an abnormal specimen, which was being investigated in the laboratory. To the surprise of his professor, and to his own consternation, his urine was loaded with albumin. Up to that time he had had no objective symptoms, and only the neurasthenic type of subjective symptoms. The next day his feet swelled. It was hoped that he albuminuria was functional, but the urine also contained casts. Within a month after the chance examination of his urine, he had a convulsion, and two weeks later died in nephritic coma.

To summarize, it should be remembered that so-called neurasthenia is often an early manifestation of Bright's Disease, often accompanies the course of the disease, may predispose to it, and may have an unfavorable effect on prognosis and treatment.

Second, a group of symptoms, often seen together—parasthesias, weakness of the legs, often associated with feelings of constriction in the legs, a group suggestive of partial paraplegia. I have several times observed this syndrome in Bright's Disease, where true paraplegia, due to organic disease of the cord, primarily, could be excluded. The condition may be due either to the effect of toxins on the cord, or to the impairment of the nutrition of the cord from concomitant arterial changes in the vessels of the cord.

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Another example of parasthesia which often occurs alone, is deadness of the fingers. This symptom is rather common in Bright's Disease and should always excite suspicion.

Third, Neuritis. As a rule, Bright's Disease is not a painful malady. In certain cases, however, pain may be a feature, as in one of the illustrative cases cited below in which intractable sciatica was the dominating symptom. Painful cramping of the calf muscles is quite frequent, and is probably a neuritis. Most laymen consider pain in the back a sure symptom of kidney disease. To such an extent does this belief obtain, that patients often come complaining that their kidneys are affected, when their own diagnosis is based solely on backache. I have rarely observed pain in the back in Bright's Disease, and when it does occur, it is usually referred to a much lower part of the back than the region of the kidneys, and is no doubt neuritic rather than renal.

The following summarized case histories taken from a number which I have observed, serve to illustrate the three groups.

First, Neurasthenia. The illustrative case is that of a man, aged 38, whom I observed from June, 1911, until his death in December, 1912. When I first saw this patient, he had been suffering from chronic interstitial nephritis for 11 years. He presented the classical symptoms of persistent albuminuria, with low gravity urine, in which casts were constantly present, a systolic blood pressure varying from 200 to 220 mm. Hg., and hypertrophy of the heart. The following disturbances are given as the patient related them to me from time to time. They may be classified under two heads, mental and physical. His mental symptoms were depression, a feeling of apprehension, and a feeling of disassociation of his personality. The feelings were varied from time to time, but were more or less constant. There was also a feeling of indescribable dread, which he would often labor to adequately describe, and a feeling of de-personalization associated with an oppressive sense of unreality, as if he were moving in a dream—a nightmare from which there was no escape.

The physical symptoms of this patient present the extraordinary variation in character and location, so often seen in what we are pleased to call neurasthenia. The ones I have especially noted were a feeling of vague discomfort in the throat, a feeling of sub-

jective nervousness associated with a sense of chronic fatigue, which would sweep over the patient in waves, and all but submerge him, peculiar feeling referred to the head, which on some occasions he would describe as a "heavy feeling," and on other occasions as a "wooden feeling," as if the entire head had solidified into the consistency of wood. Another frequent complaint (gastrie neurasthenia) was gas on the stomach, associated with a fullness and oppression in the chest, as of a weight over the sternum. Finally, was a complaint which I never remember to have heard before—a sensation as if the blood was circulating through his entire body at freezing temperature. This was described, not as a sense of coldness, referable to the skin, but of a feeling that his blood had turned to ice. I have not exhausted the list of this patient's symptoms, but have contented myself with giving those which occupied the most prominence in his mind. This patient's happiness revolved around his blood pressure. If the pressure was over 200 mm.Hg., he left me depressed, and burdened with symptoms. If it chanced to be a trifle under 200, he was correspondingly elated. A week before his death, the pressure was 160, and he left me happy. He did not realize that this presaged a failing heart. Seven days later he died of acute cardiac dilatation.

Second, the paraplegic syndrome. A man of 64 was seen in June, 1915, complaining that for two years he had noticed that there was a feeling under the soles of his feet as if a cushion were placed between the foot and the shoe. Later, the legs began to ache, and around the thighs, a sensation as of a rubber band constricting them. At times the feet burned, and constantly the fingers felt dead. Physical examination at that time revealed a slightly enlarged heart, a systolic blood pressure of 140 mm.Hg., normal urine, and a moderate degree of secondary anemia. The diagnosis was in doubt. Gradually, in addition to the above symptoms, distinct weakness of both legs appeared, which finally became so extreme that walking was reduced to a feeble shuffling. The knee jerks were normal; there was no ankle clonus, no Babinski. Objective sensation was everywhere unimpaired. There was no sphincter disturbance. The Wassermann on blood and spinal fluid was negative. The spinal fluid in all respects was normal. The blood pres-

sure remained practically normal (130 to 140). The palpable vessels were not definitely thickened. The urine at no time showed abnormal gravity, albumin or casts, nor was it deficient in amount. A functional test of the kidneys, however, by the Phenolsulphonephthalein test, administered intravenously, revealed a total output in one hour of only 15 per cent, as against a lower normal limit of 60 per cent to 65 per cent. The pulse gradually began to grow slower, and in the course of a few weeks dropped from an average of 64 per minute to 40 per minute. He died in March, 1916, with uremic manifestations.

Third, Neuritis. In December, 1914, I was called to see a man of 60, who, in the preceding May, began to suffer from severe sciatica in the right leg, and at intervals since, had suffered very severely. At the time I saw him, everything in the category had been tried for the relief of pain without result. His blood pressure varied from 220 to 260 mm.Hg., and his urine was low gravity and contained a trace of albumin, and many hyaline and granular casts. The heart was moderately dilated. The pain yielded to nothing but morphine in large doses. He rapidly declined, and died early in January, 1915, of a terminal pulmonary edema.

Conclusions: Bright's Disease, either in the early stages, or at any time in its course may exhibit a large number of nervous manifestations which may simulate other conditions. In some cases of true Bright's Disease, the urine may show nothing abnormal at many examinations, and the blood pressure may not be excessive, which is probably due to a failing heart. In such cases a functional test of the kidneys is of distinct value in diagnosis and prognosis.

1023 Empire Bldg.

DISCUSSION ON THE PAPER OF DR. GAINES.

Dr. A. H. Bunce, Atlanta: I would like to call your attention to a few things in connection with the diagnosis of Bright's Disease. In the typical case you get a large quantity of pale, straw-colored urine, with a specific gravity of 1003, 1002, 1005, and not rarely above 1010. We may or may not get a trace of albumin. Quite frequently we do not get albumin. You may get a few casts, and occasionally a few hyalin casts,

but when you examine for total solids you will find they are very low. That is a typical case, but as Dr. Gaines has pointed out we can not always depend upon that because we have a man with a urine normal in amount, with normal specific gravity, with no albumin, and no casts, at any time, and with normal blood pressure, and yet his case is one of Bright's Disease. With reference to the urine in cases of this kind, it should be examined very carefully, saving a twenty-four-hour specimen especially, and making an examination for the amount of total solids. I think probably that will throw more light on it than any other single examination of the urine.

We have also been taught that it is necessary to have a high blood pressure, and as a rule we do get it, but as has been shown here, that is not always necessary by any means.

I think the most valuable thing he brought out in the paper was the functional renal test. We have seen that mentioned very much in the literature and a person is liable to get the idea it is difficult. The phenolsulphonephthalein is put up in sterile one c.c. ampules, and it is a simple matter to have the patient empty the bladder and give one c.c. intravenously, which I consider the best method of giving it and test the output of the kidneys for two hours, collect the specimens in separate vessels and dilute down after having sodium citrate solution and test with colorimeter. It is a thing anyone can do in a short time. It is inexpensive, and there is a great deal of light thrown on just this class of cases. It tells you more than any one thing. I have yet to see a man showing an output of something like 15 or 20 per cent that did not die. Almost invariably you can get a correct prognosis from an examination of this kind. If you find casts, if you find albumin, and the phenolsulphonephthalein output is high, the prognosis is much better than if you find no casts and no albumin, and find a low phthalein output.

About four years ago in trying to determine what was the normal amount that should be eliminated in two hours at the Atlanta School of Medicine, we injected 100 students. We found that about 15 per cent was the least any of them showed at all, although the normal is usually given around 75 per cent output for two hours. Therefore, whether casts and albumin are present or

not, if the phthalein test shows a low functional activity, I think it sounds a note of warning that these cases should be looked after very carefully, because if you get a very low output you will get a fatality if the patient is not sent to bed and looked after carefully.

I think we are greatly indebted to Dr. Gaines for calling our attention to these cases.

We should examine the urine for total solids, nitrogen, for acetone and diacetic acid, and especially chlorids. The quantitative estimation of chlorids is of value in cases of this kind, and also where other things are negative it is not a bad idea to examine the blood for urea, because all these things, when taken into consideration, will throw a great deal of light on the case. All taken together will help us towards the diagnosis and prognosis.

Dr. M. A. Clark, Macon: I am very glad Dr. Gaines has selected this subject on the nervous manifestations of Bright's Disease, and I want to emphasize what he has said. We are too prone to jump to conclusions in a number of cases, especially in our nervous patients. It is an easy matter for nervous people to break down, and in the present day when neurasthenia is the typical American disease in the mad rush for money, there are a great many diseases of purely nervous origin which we should carefully note. Patients come to us with a nervous breakdown, or so-called neurasthenia, or nervous indigestion. As has been suggested by the essayist, we should examine these patients thoroughly and exclude everything else before we conclude it is nervousness. In many of these cases of so-called nervous breakdown you will find nephritis is at the bottom of it. The term Bright's Disease stays with us. We should have subacute and acute cases of nephritis, but we use the terms interstitial nephritis and parenchymatous nephritis, and the phrase Bright's Disease is unfortunate. You can tell a patient he has nephritis without saying that he has Bright's Disease. If you tell him he has Bright's Disease he thinks he is doomed to death in a short time and that any treatment you give him will be of little or no benefit. But the principal lesson to be drawn from the doctor's paper is to thoroughly examine these patients and be sure about our diagnosis.

Dr. E. C. Thrash, Atlanta: It is certainly very gratifying and interesting to see a neurologist looking elsewhere than the nervous system for troubles. Dr. Gaines always does this, but I must say the average specialist is too much inclined to stick to the one organ he is handling. Of course, the neurologist thinks the nervous system is the underlying cause. I think if our gastro-enterologists took this more into consideration they would often do better with their cases. I have seen numbers of cases of nephritis, of disease of the vascular system, tuberculosis, and occasionally organic disease of the heart that have been treated month after month by reputable gastro-enterologists. They are getting away from that somewhat now, but every man, no matter what his specialty is, ought to be a well-rounded doctor and ought to know how to make diagnoses and ought to organize team work with his coworkers to work up his cases and get at the bottom of them.

Another thing I have in mind is frightening our patients by telling them they are suffering with Bright's Disease. Dr. Gaines brought that out as to how he watched a patient's blood pressure, and how elated he was to find it a few points off. I have often thought it would be better if patients did not know anything about blood pressure or did not know what their actual organic disease was due to, as I think we can get them to follow out our instructions without telling them their specific organic disturbances, and by so doing we will get better results. Quite frequently we avert the very thing we try to accomplish in talking to patients. They develop neurasthenia, they think too much of themselves, and when you talk to them too freely about their ailments you will do more harm in your efforts than good. The effect you produce on the nervous system and upon the psychic being will be more harmful than the remedial agents you use or recommend will do good. Blood pressure is not used properly by many of us. When we find a man with interstitial nephritis, arteriosclerosis, or hypertrophied heart, the whole system being rounded out in good shape, and the patient getting on pretty well with his blood pressure a little high, we make a mistake if we undertake to correct it and in so doing may do more harm than good. Nature has adopted a plan to take care of such a patient properly. The high

blood pressure in such a case is not harmful, it is beneficent. It is the conditions that brought about the high blood pressure that are doing harm. A man will be elated over the lowering of his blood pressure when he may be dying. When a man goes along fairly well with a blood pressure of 190 or 200, and then it comes down, one must not feel happy over the outlook. He had better give a grave prognosis and let the family know that the patient is dying. He is developing brown atrophy of the heart or slow dilatation, or, at least, muscular insufficiency, and he will go gradually down until death will end the scene.

Examination of the urine is worth while, but when you get those conditions in which blood pressure has been going on with a trace of albumin and a low specific gravity, or where the urine is of the proper consistency, normal in amount and of normal specific gravity, if you watch the blood pressure you will find it is gradually getting lower in many of these cases.

Dr. Bunee referred to the specific types and spoke of the importance of estimating the total solids. You estimate the total solids when you take the specific gravity. But you do want to know what the specific type of solids is and know something about the urea and the diacetic acid. It is not especially important to get at the total solids, but when the specific gravity of the urine is 1020 you get the total solids. The type of these solids you may not know and you have to make a chemical analysis in order to determine it.

Dr. Gaines (closing): I think the point made by Dr. Thrash of not calling diseases by the names of the men who first described them is well taken. We talk about hyperthyroidism now rather than Graves' disease, and I think it should be the same in cases of Bright's Disease. However, usage has sanctioned the term Bright's Disease to such an extent that it is frequently used in a popular sense, but I think it is well to get away from that.

I regard the functional test that Dr. Bunee spoke about, and to which I alluded in my paper, as a valuable addition to our methods of diagnosis and prognosis. The test was first applied by Rowntree and Geraghty in cases in which operative procedures were to be done. They worked particularly with Dr. Young's cases in Baltimore at first that he did prostatectomies on. Later the test was

applied by internists in cases of Bright's Disease. I rather think that more of our cases ought to be subjected to this method than there are because we can get a better idea as to what work the kidney is really doing.

I had a case a day or two ago in a man, 21 years of age, who has every evidence of parenchymatous nephritis. His output is 60 per cent, and in spite of the evidence showing a serious kidney lesion, the kidneys are doing their work fairly well.

Then, there is another case in which the kidneys apparently are doing their work, but there is no albumin or no casts, but, as a matter of fact, they are not doing their work, as is shown by the low output.

Dr. Thrash has brought out the matter of compensatory blood pressure. The idea of many physicians is that a high blood pressure must be lowered. It is Nature's remedy. It is Nature's barrier between danger and comparative or temporary safety. I have patients whom I have observed for a year and a half that have blood pressure of 300. I have not made any attempt to reduce it except by elimination and other methods of that sort. But one of the patients, a man, is going around, walking about, taking trips and getting along very well. If his blood pressure was reduced very materially he would not live more than a few weeks or months.

Five years ago one of the prominent physicians in Atlanta happened to be in my office when I had a new blood pressure instrument, and he suggested that I take his blood pressure, which I did, and found it was 200. I said nothing about it. He said nothing about it. His health has been extraordinarily good; he is over 70 years of age, and I am sure if any attempts were made to reduce it, his health would not be so good.

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PITUITRIN.*By **J. W. Palmer, M.D., Ailey, Ga.**

I shall limit my discussion of pituitrin to obstetrical uses; however, it is used in the treatment of various other things. Pituitrin is a pituitary extract, otherwise described as a solution of the active principle of the infundibular portion of the pituitary gland (in animals). This gland, as is well known, lies at the base of the brain.

Before one administers pituitrin he should be familiar with its physiological and therapeutical actions. Briefly speaking, its entire action on the human body is due to the stimulation of the involuntary muscles in the various parts, slowing of the heart and rise of blood pressure. The results of pituitrin is due to the constrictive action on the peripheral blood vessels, producing temporary anemia of uterine muscle, which causes the contraction. The action of pituitrin is not constant, and continuous like that of ergot, but intermittent. It has no toxic effect. It is claimed by some that it is the normal flow or secretion of the pituitary gland that produces labor pain. When the pains are not sufficient to produce delivery it is because the pituitary gland is not secreting a normal amount of pituitrin, consequently when we are injecting it we are injecting a normal secretion of the body. When we inject it in labor, we are only supplying the deficiency of the secretion or bringing its activity up to the standard. It should make the uterus act as in normal labor.

Whenever, at any stage of labor, progress is slow and conditions are normal, and the labor pains are ineffectual, sluggish or cease altogether, pituitrin in single or frequently repeated small doses will make the case progress normally. It should always be used in second stage of labor when pains are infrequent, weak, and progress is slow, if conditions are normal—that is, if the position, the presentation and the relations between the fetal parts and the bony pelvis are such that a live baby may be expected with a fair degree of certainty. I have been judiciously using pituitrin since its introduction. I have had considerable experience with it clinically, having used it several hundred times; re-

port of said cases too lengthy to mention. What I have to say is result of actual experience.

Its addition to the obstetrical bag is a blessing to the general practitioner, in rural districts especially. I had rather go without my forceps than without pituitrin. It has removed the nightmares in general obstetrical work. It has and will cause fewer gray hairs on the heads of physicians made gray by having to set around and wait for women to have babies. When I was called to labor cases before the introduction of pituitrin, I told my wife good-bye and did not know when I would return. Now I tell her I will be back in two or three hours, because if there is no indication for the use of pituitrin, and patient has not advanced to the second stage of labor and you don't care to wait, you can safely administer 1-8 or 1-4 gr. morphine with 1-100 scopolamine and go home, returning in 3 or 4 hours when you may administer pituitrin with happy results. Of course, if your practice is limited to big cities with hospitals and trained nurses where you are within twenty minutes call of your patient at all times, this perhaps will be of no advantage to you.

Dosage

If given in first stage of labor at all, it should be given in small doses, 1-3 to 1-2 ampule every 20 to 30 minutes. In second stage of labor when pains infrequent, weak and progress slow, give one full ampule; if it does not increase the pains, repeat in one-half hour; if this does not increase pains you need not give that patient any more; however, these cases are met with very seldom. When the first dose makes the pains stronger, but not sufficient to give result, repeat first dose in one hour; if no result from that dose give the third dose one hour from second. If no result from third you need never give the fourth dose. Usually the effects of pituitrin is noticed in six minutes. After dilatation of cervix never leave your patient after giving it.

I have had few cases that pituitrin had no effect on whatever. Whether that is due to the individual or faulty preparation I am not able to say. I find one manufacturer's preparation as good as another.

If your patient is having supposed labor pains and you give her pituitrin it will relieve her instead of increasing the pains, if it is not true labor pains. With but slight

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dilation of cervix with supposed labor pains and your patient gets easy when pituitrin is given, you may go home, as it is a false alarm. I have had experience with several cases of this kind.

When Pituitrin Should Not Be Given

Do not use it because you are in a hurry, or tired of hanging around your patient or want to save time. Don't give in first stages of labor, as a general rule. Don't give in cases of high blood pressure, such as Eclampsia, pre-Eclampsia or Nephritis, or arteriosclerosis. If used in these cases you must overcome its vaso-constrictor qualities by giving proper doses tincture veratrum, which reduces blood pressure, but does not detract from the oxytocic properties of pituitrin. It acts as additional safeguard in these cases.

Don't give when marked disproportion between child's head and mother's pelvis, or where there is serious obstructions from any cause.

Don't give in myocarditis or threatened rupture of the uterus.

Don't give in twin pregnancy until the first baby is born, nor in shoulder presentation. Don't give it in cases where the uterus is thoroughly exhausted from long continual efforts to engage the advancing parts, as it will not respond and does no good, besides, valuable time is lost which should be spent with other procedure. Never attempt version during the two hours following the administration of pituitrin.

Indications for the Use of Pituitrin

"All authorities agree that the period of greatest usefulness of the pituitary preparation is during the second stage of labor. Many women are able to fully dilate the cervix, but make no further progress, or may fail to engage a head in a slightly contracted pelvis, or may advance the head partially through the birth canal, or may even bulge the perineum with the advancing head or breech and then succumb to exhaustion. It will convert a tedious inertia into normal labor. For one reason or another it is the second stage that has usually brought the exhaustion fatal to the hoped-for spontaneous delivery. It is here that the remedy shows its almost magical quality, terminating, sometimes in a few minutes, cases which have dragged to an almost interminable length, or quickly changing a slow and exhausting second stage with weak and far

apart and insufficient pains into a vigorous, forceful and efficient bearing down pains. No other remedy or method of delivery can bring, when successful, such a change in the outlook of what has been a tedious and wearisome case. It will make an easy low forceps sufficient, when a difficult high forceps would otherwise have been necessary. It practically does away with the cases which otherwise would terminate in a low forceps delivery. It obviates the use of forceps, removes the danger from mother and child that you have from forceps delivery." However, it will never take the place of forceps, but will reduce to very large degree the use of them.

When you combine with careful preliminary examination close observation of the progress of labor, you will avoid a large percentage of operative deliveries by its use. You will shorten the period of labor and hasten expulsion. No operative procedure should ever be undertaken unless first using pituitrin.

There is less hemorrhage in third stage of labor which is shortened by its use, and after pains are not as severe. After its use patient shows less fatigue, because it increases the force of the pain with less suffering, which makes patient bear pain much better.

The number of forceps cases prevented by use of pituitrin, considering the danger of forceps and the short duration of labor by use of it, certainly leaves a balance on the pituitrin side.

The action of pituitrin often lasts after the delivery of the child and tends to prevent relaxation of the uterus. However, do not depend on that, but always use ergot as a routine after delivery of placenta. The action of pituitrin is intermittent and ergot constant. My experience with pituitrin will not allow me to agree with the gynecologists and obstetricians who contend that it has no place in labor, but used only when the uterus is empty and then it has no equal if indicated; also that it has no equal when used just before opening the uterus in caesarean section to insure firm contraction while closing same.

DISCUSSION ON THE PAPER OF DR. PALMER.

Dr. M. A. Clark, Macon: With reference to the use of pituitrin, it is the most powerful and certainly the most rapid acting ecbolic

we know. As has been said by the essayist, it is a great help in obstetrics, but unless wisely used it can cause very serious trouble. The obstetrician should never be in a hurry. I suspect that more harm is done by the obstetrician getting in a hurry and getting curious, meddlesome and impatient, than by any other one thing in obstetric practice. As has been suggested, it should not be used to bring on labor. After labor has begun, and you know the presentation is all right, and you have a roomy pelvis, the use of pituitrin will often save time and worry to the patient. It may be given a little before the second stage, provided you know everything is all right. You must be sure you know your patient. Sometimes it will correct irregular beginning pains and bring the labor towards a normal action. It is not so effective in *prima gravida*. It does help in the second stage of *prima gravida*.

I have not had to resort to the use of forceps anywhere near so often since I have begun the use of pituitrin, and in the cases I have had I would use low forceps instead of high forceps on account of the pituitrin having helped.

Pituitrin should not be used to whip up the tired uterus. If a patient is fatigued the proper thing is rest.

I think you will all agree with me that there is nothing in the practice of medicine in which judgment is needed more than in the practice of obstetrics, and it is one of the most responsible, if not the most responsible, branches of medicine, and it behooves us not to use pituitrin unwisely. We should not use pituitrin at too frequent intervals, say 20 or 30 minutes. It is quick acting. If you give 15 c.c. of pituitrin and repeat it in 30 minutes, you will produce harmful results to your patient. I have never given more than a third dose, as a rule, one to two doses. We are safe in giving one ampule of 15 c.c. hypodermically. Some use smaller doses; I prefer the other dose because, as a rule, if contractions be too severe, you can use an anesthetic. Chloroform is more convenient and more pleasant, and I do not think it is harmful in obstetric practice. In a number of cases you can administer chloroform to hush the severity of the pains and enable the patient to be much more comfortable and make labor more tolerable to the patient.

Of course, pituitrin is not indicated in the third stage. I agree with the doctor that it is wise in these cases after the third stage

to use ergot which will answer the purpose.

Another use of pituitrin may be suggested, and that is in throat cases, and in cases of operations on the tonsils and adenoids where there is any tendency to bleeding. If you give from one-half to one c.c. 15 or 20 minutes before you begin the anesthetic, you will be surprised how much less the hemorrhage is in these cases.

I am not a specialist; I am just an ordinary doctor, but I have used it in cases where specialists have operated on my patients, and in a few instances where there has been a history of a decided tendency to bleeding we have had excellent results. If there is any doubt in the mind of the doctor or specialist as to bleeding, he had better have the blood thoroughly examined as to its coagulability. Pituitrin will help in these cases.

Dr. T. J. McArthur, Cordele: The subject of the use of pituitrin, especially in the practice of obstetrics, interests practically all of us doctors, and it is of very considerable interest to the woman who is having a tedious labor. Anything that will lessen her suffering and shorten the operation of labor or its duration, without doing injury to the child or mother, is certainly deserving of very careful consideration.

I am not one who jumps at new things as quickly as some of my professional brethren seem to do, and pituitrin was used for some little time before I was bold enough to give it a trial, but I have been thoroughly convinced of its usefulness and have come to the conclusion that it ought to be a valuable agent in our obstetric cases. I do not think there has been any one thing in my experience as a physician that has helped me as much in the practice of obstetrics as pituitrin; yet, while I consider it a valuable remedy and one that will help us and our patients out of a great deal of trouble, I consider it a very powerful remedy and one that should be used very carefully and with, as Dr. Clark has said, judgment.

I think before administering pituitrin to cases of obstetrics we ought to know our patients thoroughly. We ought to know the possibility of delivery, or to know that the birth canal is such that a normal child can be brought through it, and that the child is of such shape and size and presenting itself in a way that it can come through.

For some time I have used pituitrin only in second stage of labor, and it helps me wonderfully. I have used generally one am-

pule, one c.c., and occasionally repeat it once or twice. Within the past few months I have been bold enough to use it in the first stage of labor, but not until dilatation is pretty well established. We know our patients then, and we have to make up our minds to stay with the patient and give it in about five minim doses and watch its effect. We ought to be on to our job when giving pituitrin in these cases, and then in 30 or 40 minutes more give five minims more, and again in 20 or 30 minutes or an hour, repeat the same sized dose. By so doing we will often bring about more efficient pains that will accomplish something and not injure the mother or the child and hasten the delivery. After giving these small doses three, four or more times, we get up sufficient dilatation, and we can give half of one c.c. and later one c.c.

Just a few weeks ago I had a case, a second pregnancy, full term, slow progress, just a little dilatation, inefficient pains, and I proceeded in that way with five minim doses of pituitrin, repeated in 20 to 40 minutes until I gave two c.c., and then half an ampule for two more doses until five ampules had been given. I did my patient or child no harm, and delivered her in the course of six or eight hours without the use of forceps.

Pituitrin is a very efficient remedy, and one we ought to carry with us and often use, but we must consider it a potent remedy and one capable of doing a great deal of harm when unwisely used.

Dr. E. C. Thrash, Atlanta: I would like to ask the essayist a question. I have had some experience in the administration of pituitrin in hemorrhages of the lung, and after administering four or five successive doses of the drug the patient has complained severely of headache. I would like to ask if that has been the experience of obstetricians in its use for obstetric work?

Dr. A. A. Barge, Newnan: I believe the essayist stated that when we have uterine trouble, we ought not to give it. How are we going to know when we have uterine trouble?

I do not know anything about the use of pituitrin to amount to anything. However, since 1891 I have had considerable experience in obstetric work from month to month and from week to week. When I started out I began telling these women that whenever they had pains to bear down, and they bore

down and lacerated the cervix. I know they did that because when I made an examination I would find hemorrhage. I tried that for about a year or more. When I get a patient in whom the pains are very strong and the woman is nervous, I give bromid of strontium, and since I have been giving that remedy in my experience the lacerations of the cervix have been reduced 80 per cent. We should give more time in order for the uterus to contract and relax.

It has been demonstrated that uterine contractions raise the temperature of the uterus. That has been determined and we know it is true. We know also that the circulation of the uterus during uterine contractions is such that we have increased leucocytosis, and it brings about rapid tissue change. Taking it from that standpoint and from my experience with the lacerated cervixes I have had, I can safely say that I have had not over two lacerations in ten cases where I formerly had ten to four.

I would like to have any of you gentlemen answer this question: Does pituitrin increase tissue change or does it by the force of contraction expel the fetus from the uterus without causing any rapid tissue change in the cervix? If it does not, I am afraid of it. If it does, I want to know it.

I know of some patients who have died from its use. I heard a practitioner say he had a tumor to deal with inside the uterus. He took the patient to another physician who said there was a hematoma. He used pituitrin and the woman died inside of 48 hours. I know of three patients having died from the use of pituitrin. I used it once where the fetus was expelled in four or five minutes. I went to see the woman the next morning and left six drams of ergot to be given every two hours to cause emptying of the uterus. I returned at 4 o'clock in the afternoon and found she had a slight pain. I gave her one c.c. hypodermically and sat down. In 20 minutes she said, "I have sure enough a continuous pain." In about three or four minutes she said, "I am easy."

I feel there is some danger of rupturing the uterus if pituitrin is used unwisely.

I would be glad to know if there are any tissue changes in the cervix from the use of pituitrin. That is why I am afraid to use it.

Dr. Palmer (closing): I thank you very much for your discussion of the subject. I always like to be criticized on these things.

In regard to using pituitrin every 15 minutes: If I use it in the first stage I give one-third of an ampule, or, in other words, give small doses frequently in the first stage, and not large ones.

With reference to headache, I will say that I used pituitrin a few days ago in a case and that woman gave me considerable trouble on account of the severe headache she had. It was hard to relieve; it continued for 24 hours. I do not know what the cause of her headache was, but it may have been due to the use of pituitrin.

As to the question of threatened rupture of the uterus, we have no definite symptoms of it, so that I can not answer the question.

When I am delivering a woman and she is having pain and is bearing down as hard as she can, and the uterus seems to be contracting hard enough, I let pituitrin alone and reach down and use forceps.

The criticism has been offered that the use of pituitrin may asphyxiate the child, or that the child may be born asphyxiated from the use of pituitrin. I can really always tell when the baby is born. If it is dead the asphyxiation is due to pituitrin. Pituitrin will cause asphyxiation by separating the placenta too early; the placenta will be delivered with the child or soon afterwards. When the placenta follows the delivery of the child immediately, and the child is asphyxiated, you may depend pituitrin is responsible for it.

I want to say to you that just as pituitrin is becoming popular just in that proportion is it becoming very dangerous. Now and then a brother physician will speak of a fellow practitioner as having sloppy results because without knowledge or experience with pituitrin he goes ahead, and orders some and administers it without selecting the cases and using it unwisely.

I hope my paper will cause those who use it under any circumstances to be familiar with it. There are very few drugs, when used in properly selected cases, more effective than pituitrin.

The United States Public Health Service believes that the common towel spreads trachoma, a disease of the eyes?

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THE NEW DIETETIC TREATMENT—AS INDICATED FROM SIMPLE CULTURE OF STOOLS—IN INFECTIOUS DIARRHOEA OF INFANCY AND EARLY CHILDHOOD.*

W. A. Mulherin, M.D., Augusta, Ga.

Associate Professor of Pediatrics, Medical Department, University of Georgia—Visiting Pediatrician to the Children's Hospital and University Hospital.

It is the purpose of this paper to briefly call attention of the Medical Association of Georgia to a decidedly new and effective line of treatment in Infectious Diarrhoea in Infancy and Early Childhood. I do not claim originality for this treatment, but merely feel it my duty, as one devoting special study to Pediatrics, to bring this matter before you. I do not propose to take up the symptomatic treatment of this disease, but rather to explain and endeavor to elucidate the principle of this new treatment.

Infectious Diarrhoea

To avoid confusion, I deem it advisable to make clear what is meant by infectious diarrhoea. By infectious diarrhoea is meant diarrhoea produced by micro-organisms. This, of course, excludes diarrhoea from intestinal indigestion, also the medicinal form likewise the reflex and also the eliminative, as in uraemia. It is a term used synonymously with acute ileo-colitis, dysentery, enterocolitis, enteritis and inflammatory diarrhoea.

Symptoms

Infectious diarrhoea can be divided into two kinds—the **dysenteric** and the **non-dysenteric** type. The dysenteric type you are all familiar with the cardinal symptoms being bloody mucous stools, tenesmus and fever. Oftentimes pain preceding each stool. The number of stools varying from a few to twelve, twenty or even more in twenty-four hours.

The **non-dysenteric** type is usually milder in its symptoms, signs, and course. Its number of stools may be but slightly increased, mucus and blood scant, or even wanting, and tenesmus absent. These cases resemble an acute intestinal indigestion, except, for the

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fact that the diarrhoeal symptoms and the fever persist in spite of thorough catharsis and proper feeding. An absolute diagnosis in such cases can only be made by a bacteriological examination of stools.

Treatment

Dr. John Lovett Morse, professor of pediatrics at Harvard, and his co-workers in the Harvard Pediatric Department, have worked out a very sensible and scientific treatment for this class of cases. Its principle, concisely stated, is a simple culture of stools to determine the offending organisms; adaptation of suitable diet, either carbohydrate or proteid to the case, thereby inhibiting the action of the organisms present. Then supplying or causing to be formed in the bowels lactic acid, which procedure has an inhibiting effect on the organisms causing the infectious diarrhoea.

Micro-organisms—The chief micro-organisms causing infectious diarrhoea are of several different types. They may be broadly divided into three main classes:

1. The dysentery bacillus in all its forms.
2. The gas bacillus and similar organisms.
3. Other organisms, of which the most important are streptococci, the colon bacillus and the bacillus pyocyaneus.

It is impossible from the clinical picture, or the appearance of the stools, to determine which organisms are causing the disease, except, in rare instances, when the bacillus pyocyaneus may produce a peculiarly green color to stool. This green color when due to bacillus pyocyaneus disappears when nitric acid is added. When due to bile the characteristic play of colors by Gmelin's test will appear when nitric soda is added.

For all practical purposes, and for the simple cultural test, it is only necessary to divide all these organisms into two simple classes:

1. The organisms forming gas in the fermentation test tube. These are the gas bacilli and allied organisms, which indicate a proteid diet.
2. The organisms that do not form gas in the fermentation test tube. These are the various forms of the dysentery bacilli, and the other organisms—excepting the gas bacilli. The presence of these organisms indicate a carbohydrate diet.

Simple Cultural Tests

There are two tests for the gas bacillus, either one may be used.

1. Taken from *Sylvester and Hibben (Archives of Pediatrics, June, 1915)*:

(1) Fill fermentation tube and large test tube with concentrated nitric acid. (This destroys all organisms and spores.)

(2) Pour off acid after three minutes and rinse with hot tap water until neutral to litmus.

(3) With glass spatula (soaked in acid and washed until neutral) place about 1 c.c. dextri-maltose and 1 c.c. of stool in one-third test tube of water. (If stool is solid it must be finely divided in water.)

(4) Boil vigorously one-half minute and pour into fermentation tube, tilting tube back and forth to eliminate bubbles.

(5) Stopper tube with flamed cotton and place in incubator at 37 c. (body temperature) for twenty-four hours.

(6) After twenty-four hours inspect tube for gas and note amount.

(a) Bubble size of pin head or none, negative.

(b) One-half inch—1 plus (+)

(c) One inch—2 plus (++)

(d) One and one-half inches—3 plus (+++)

(e) More than above (++++ or "Blew out the tube.")

2. Taken from *Morse and Talbot on Diseases of Nutrition and Infant Feeding*:

"This method is a simple one, which can be easily carried out by any one. A small portion of the stool is added to a test tube of milk. The infected tube is then gradually brought to the boiling point of water in a water-bath and kept there for three minutes. In this way, all the bacteria not in the spore state are killed and the development of whatever spores may be present into vegetative cells is unrestrained by the presence of non-spore-forming organisms. The tube is then incubated at body temperature for from 18 to 24 hours. When the gas bacillus is present, the casein is largely dissolved (usually at least 80 per cent); the residual casein is somewhat pinkish in color and filled with holes, and the odor of the culture is much like that of rancid butter, as the result of the formation of butyric acid by the gas bacillus. Gram-stained preparations made from the milk show rather thick, short, Gram-positive bacilli, with slightly rounded

ends. The fermentation is more easily observed if the milk, after being boiled, is put in a sterile fermentation tube. "Pseudo-reactions" may occur in which there is some liquefaction of the casein, but the shotted appearance of the residual casein is absent and there is no odor of the butyric acid. It must be remembered, however, in interpreting the results of this test, that the presence or absence of dysentery bacilli that does not require special media and a fairly well equipped laboratory."

Principle of Treatment.

It is well known that proteid diet, for instance, fat free lactic acid milk, buttermilk, Finkelstein's milk, inhibit the action of gas bacillus and its allied organisms, and, therefore, would be the logical diet when gas bacilli are found to be the cause of the infectious diarrhoea. It is, also, equally well known that carbohydrate diet, like sugar of milk, dextri-maltose, cane sugar, zweiback, toast, crackers, cereals, barley flour, etc., increase the action of gas bacillus and its allied organisms, and, therefore, would be contra-indicated as the diet in a gas bacillus infection.

The directly opposite prevails if the simple culture method shows no gas bacillus infection as the cause of the infectious diarrhoea. The proper inference would be that it is due to the dysentery bacillus and its allied non-gas-forming organisms. In this case we know that the organisms are facultative, that is, they can thrive upon carbohydrate or proteid diet. They, however, attack carbohydrates first and form harmless products from carbohydrates; from proteids they form decidedly toxic substances. If sufficient carbohydrates be present in the food given, the broken down products from the carbohydrates exert an inhibitory action upon the dysentery bacilli, and to a less extent upon the streptococci. Proteid diet would intensify the infection in these cases, and, therefore, would be contra-indicated. Carbohydrates would be the only logical food to be given.

It should be plainly evident, now, the important role that suitable diet plays in these cases of infectious diarrhoea. As soon as we know our infection in the bowels we can begin at once to feed, and not only nourish our little patient, but obtain from the diet an additional medicinal effect—the inhibiting action on the organisms. The great ad-

vantage of this method over our old one of starvation and the "hit and miss" feeding, heretofore in vogue, I am sure will appeal to any one who has handled many of these cases.

In addition to the diet, the presence of lactic acid in the bowels has a marked deterring effect upon the growth of both the gas and non-gas-forming organisms, but especially upon the gas-forming organisms. Therefore, the introduction or formation of lactic acid in the bowels is a logical procedure in the successful treatment of infectious diarrhoea.

The best way to obtain good results of lactic acid in the bowels, in gas bacillus infection, is to use buttermilk; which already contains a certain amount of lactic acid and also active lactic acid bacilli which, when ingested, continue to form lactic acid in the bowels. A still better way, however, is to use fat free lactic acid milk. Fat free lactic acid milk is made by inoculating skim milk with a strong strain of lactic acid bulgaricus bacilli. The sugar in the cow's milk furnishes enough sugar medium to keep the lactic acid bacilli actively alive and constantly forming lactic acid in bowels.

In cases where the infection is caused by the dysentery bacillus or its allied group and contra-indicate the use of fat free lactic acid milk, buttermilk or Finkelstein's milk, it has been my custom to give one Bulgara tablet or one teaspoonful of B. B. Culture in sweetened water every three hours. In about five days when symptoms and signs show improvement, I supply the lactic acid by cautiously adding small quantities of fat free lactic acid milk to the diet. Proteid should be added as soon as possible to diet to offset the nitrogenous waste of body which necessarily occurs in this disease. Likewise carbohydrates should be slowly added to diet, when gas bacillus infection prevails, as soon as symptoms show marked improvement.

My routine measure in treating infectious diarrhoea is to have the bowels thoroughly irrigated with saline solution—one level tablespoonful of common table salt to two quarts of warm water—then follow with a generous dose of castor oil, which cleanses more thoroughly and irritates the bowels less than any of our cathartics. If vomiting is troublesome and oil not retained, I give small divided doses of calomel and soda, followed

by milk of magnesia two hours after the last dose of calomel and soda.

The stool is incubated after first visit and nothing but plain water or water sweetened with saccharin (saccharin grains 1 to 1 qt. of water) given freely to drink for the next 18 or 24 hours. By this time I know the organism causing the trouble and proceed to feed my little patient with the proper diet, and at the same time supply lactic acid to the bowels.

A Few Practical Points

Now, before closing this paper, I might make a practical, but not scientific, suggestion to those who are unable to incubate the stools. I do not, however, wish to be understood as advocating this practice, as there is too much guess about it.

If called to a case of infectious diarrhoea and carbohydrate diet is being fed the child, and patient is growing progressively worse, a reasonable guess would be that you have a gas bacillus infection to contend with and proteid diet would in all probability give better results. The reverse would hold true if buttermilk was the diet and the patient was growing more toxemic, it would be fair to assume that the infection was dysentery bacilli or its allied group and carbohydrates would be the more logical diet.

Another point worth remembering in the event you can not culture stools, is that the gas bacillus is the more common of the two infections. Also, that in a given season the vast majority of cases of infectious diarrhoea are due to the same organisms. If the prevailing organism is known the chances are, therefore, that this organism is also the cause in the given case.

Results

While my experience with this treatment has not been extensive enough to allow me to speak authoritatively on this subject, it has been sufficient, and results have been gratifying enough, to make me a strong advocate of it. I believe it to be the most sensible, logical and scientific treatment today for infectious diarrhoea. It eliminates, to a great extent, the heretofore guess work that has been practiced in the treatment of these cases. It allows one to proceed in treatment with confidence and assurance, two important factors in the proper and successful treatment of all medical cases.

I sincerely hope that this new dietetic treatment will be given a fair trial by the

practitioners of Georgia during the approaching summer season. I feel reasonably certain that it will be found to be a treatment that has come to stay, because it is based upon merit. Its advantages will convince you, as it has others, who have used it.

DISCUSSION ON THE PAPER OF DR. MULHERIN.

Dr. J. W. Palmer, Ailey: I want to thank the doctor for his able and scientific paper. It must have taken him a great deal of time and study to prepare and present to us this line of treatment.

I would like to have the doctor state in his closing remarks what percentage of recoveries or cures he gets from that treatment, how many cases he has treated, and how long he has been doing this kind of work.

In regard to diarrhoea or bowel troubles of children, I venture to say that one-third or one-fourth of our practice in the summer comes under this head, and it has been the nightmare of my life until the introduction of the Bulgarian bacillus, gotten out by Hynson and Westcott.

I want the doctor to state in closing what he thinks about the Bulgarian bacillus and its value in these cases.

At one meeting of the Association a doctor told me of the results he had obtained by the Bulgarian bacillus as put up by Hynson and Westcott. Several articles have appeared in the Journal of the American Medical Association regarding this preparation. I have been using these tablets ever since, and I must say that during the three years I have used them I have not lost a case. I do not attribute my success altogether to luck, but to the use of these tablets. I give them buttermilk if they will take it and also the Bulgarian tablets. The trouble with most physicians is they do not use enough of them, and in severe cases of bowel trouble one should not hesitate to use plenty of them. In the severe cases I give five-grain tablets, three every two hours, for 24 to 48 hours until the symptoms abate, and let these little patients take all the buttermilk they can. That will sustain them. These bacilli can be given in sweet milk. I give a dose of castor oil every other morning, and the Bulgarian bacillus tablet gotten up by the firm I have just mentioned, and I have found them the

best remedy I have ever used so far, but I hope to try the doctor's new treatment.

Dr. Mulherin (in closing): I wish to thank Dr. Palmer for his kind and practical discussion of my paper. Before answering his questions I wish to call attention of the Association to what I consider a very important matter. There is but one pediatric paper on our entire program. This is a fact that does not reflect much credit upon our Association. It appears that we are not dealing squarely by the infants and children of Georgia.

To substantiate this assertion it is well to remember that the infants of today will be the fathers and mothers of tomorrow. If we look carefully to their physical welfare we will have a stronger and healthier race. If we neglect their physical well-being it will unquestionably show in later years. Again it might not be amiss to call your attention to the disgracefully high infant mortality that prevails today—20%. This means that out of every five deaths, from all causes and at all ages, one baby under one year of age will be numbered amongst those deaths. The most lamentable part about this high infant mortality is the fact that 50 or 60 per cent of this 20 per cent mortality occurs from preventable causes, like nutritional disturbances, bowel troubles and pneumonia.

These facts appear to me to be sufficient to stimulate our Association to an extra endeavor to give more time and attention to the subject of Pediatrics. It is well for us to remember that a chain is no stronger than its weakest link. Pediatrics, since it contributes such a high mortality, is unquestionably the weakest link in our medical chain.

In answer to Dr. Palmer's question of the percentage of recoveries under this new dietetic treatment, I will say that we have not compiled our statistics at the Children's Hospital, Augusta, Ga., but are quite positive that our mortality in infectious diarrhoea has been materially lowered. The number of cases treated have been approximately, in private and hospital practice, one hundred or more.

Dr. Morse, and his co-workers, advocated this treatment about June, 1915. We have been using same as a routine measure at the Children's Hospital since that month. Dr. Palmer rightly speaks very highly of the Bulgara tablet. I believe it to be a most excellent tablet and is one of the few buttermilk

tablets that has stood the test of the American Council of Pharmacy. There is one point in connection with it that I would like to stress, that is: unless they are kept cold in the drug store before purchase and also in home of the patient after purchase they are almost useless, as the lactic acid bulgaricus bacilli do not remain active unless kept below 50 degrees F. Concerning Dr. Palmer's results in his cases I wish to congratulate him. I have not been able to obtain such excellent results, but believe firmly that they are a great help, as stated in my paper, in inhibiting the action of both the gas-forming and the non-gas-forming organisms in infectious diarrhoea.

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THE SURGICAL TREATMENT OF DYSPEPSIA.

C. W. Roberts, M.D., Atlanta, Ga.

The surgical treatment of dyspepsia resolves itself into the correct interpretation of symptoms referred to the stomach and the proper application of appropriate measures for their relief.

Dyspepsia may be defined as impaired or imperfect digestion and expresses itself in symptoms referable to the stomach. This paper proposes to discuss the relation between certain pathological conditions of the stomach, as well as adjacent organs producing symptoms referred by the patient to the stomach and called by the sufferer and oft-times his attending physician, indigestion, when this discomfort is only the result of the real disease and not the cause, the sentinel sounding the clarion note of distress in the neighboring camp, which has expressed itself

through the sympathetic nervous system, in the stomach.

This form of indigestion is usually spoken of as functional in contra-distinction to those arising from excessive or deficient secretion of the gastric juices, impairment of the gastric muscles, inflammation of the mucus lining of the stomach or that troublesome condition often referred to, but apparently very little understood, known as nervous indigestion, being probably the most accessible link in a chain of neurotic symptoms always associated with and inseparable from the ever-present neurasthenic. I should go wide of the mark if anything I may say in this paper might be construed to be offered as a substitute for the time-honored and intelligent medical treatment of that group of maladies arising from the pathological states last referred to, and desire to be understood as advocating surgical measures only in such cases as originate outside of this group, cases giving referred symptoms to the stomach so often confused with and accepted as coming from local diseased states of the class above mentioned. Indeed, I shall feel well repaid for this feeble effort if in its presentation I

may succeed in impressing upon the minds of this Association the fact that, taking a patient complaining of stomach distress, we are confronted by a condition requiring at our hands a very careful differential diagnosis if we would arrive at the truth, and not one to be dismissed with that hasty diagnosis inherited of our fathers in medicine, conveying by its own inexpressiveness, an acknowledgement of diagnostic defeat, familiarly spoken of as *Dyspepsia*.

It is, therefore, just as grave an imposition on the patient to treat his indigestion medically when it is the result of a surgical lesion as vice versa, and if I may be permitted, it is my desire to present the surgical phase of this subject in such convincing form as to satisfy the most skeptical among you that there is a large class, an ever-increasing class of stomach sufferers that may be relieved by surgery and surgery alone.

A functional disorder of the stomach, from the viewpoint of the surgeon, would be such a disorder as fails to show by the proper application of modern methods of diagnostic precision a local pathologic aetiology. It is in this class of dyspepsias that surgery, by the performance of its varied practices applied to diseases of the gall bladder and ducts, caecum and appendix, intestines and female reproductive organs, after due regard has been given to the blood dyscrasies, tuberculosis of the lungs and intestines, Bright's disease and spinal affections, offers its most spectacular services.

Before reviewing with you the leading surgical lesions that so often present themselves to the physician through dyspeptic symptoms wholly, or in part, it has appeared to me as worth while to offer at this time a few facts purporting to explain why such a multiplicity of painful symptoms are referred to the epigastrium. In the language of William J. Mayo, "the stomach has two well-defined compartments: The fundus into which food is immediately received when swallowed and whose principal function is that of storage, and the pyloric antrum, furnishing the gastric secretion and the muscular power. The first of these compartments, namely the fundus, is under the control, more or less, of the cerebro-spinal nervous system, as is manifest by the fact that we are conscious of hunger, a feeling of repletion after a full meal, etc. Of the second compartment, namely, the pyloric antrum, we have comparatively little

knowledge or conscious control." Going further, and still in the words of Mayo, "the control of the intestinal tract, which includes the pyloric antrum, is obtained by means of internal secretions. This control partakes of the primitive man and existed before the cerebro-spinal nervous system has developed and continues to have paramount influence over the digestive and assimilative functions.

The fundus of the stomach was a late development and is more or less under cerebro-spinal control. It follows, therefore, that the fundus of the stomach being under the control of the cerebral nervous system is the place where derangements of the entire intestinal tract from the beginning of the antrum to the splenic flexure, may reach the consciousness of the patient." It becomes in this wise the mouthpiece, speaking for ulcers of the duodenum, gall stones, appendicitis, intestinal adhesions and tumors, as well as other diseases of this tract, and its accessory glands.

We are not concerned in this paper, as above stated, with the gastric manifestations of cardiac insufficiency, arteriosclerosis, cirrhosis of the liver, or with the clear cut crises of locomotor ataxia. Neither would I proclaim surgical measures for gastric disturbances due to chronic dilatation, prolapse and to the gastric neuroses. Indeed, these compose the distinctly medical cases, surgery being much too serious an agent to use as a phycho-therapeutic means.

Standing out in marked contrast, however, are the distinctly surgical cases of dyspepsia, and if you will pardon the above generalities, I now beg to invite your attention to a brief discussion of the disturbances of the stomach produced by gall bladder diseases, chronic appendicitis, ulcers of the stomach and duodenum, and cancer of the stomach, composing the principal members of the group to be relieved only by appropriate surgical methods.

Gall bladder diseases produce four stages of gastric disturbance, based on the advancement of the attending pathology. First, those patients with mild disturbance, lightly considered by the patient and rarely committed to the physician. These attacks are characterized by mild distress in the stomach, gas, upward pressure usually of sudden onset and relieved by belching or vomiting. These sudden, mild dyspeptic attacks are quite as typical of gall bladder diseases as

are the severe typical attacks of gall stone colic, which, as a rule, supplant the milder symptoms.

The second stage is simply an exaggeration of the first, the symptoms being almost identical, except with regard to duration. Certain gastric disturbances are present constantly, there being a prolonged dull pain in the epigastric area or about the right hypochondrium. Periods of absolute relief alternate with those in which the symptoms return in exaggerated form.

The third stage is characterized by the onset of typical gall stone colic. In this class surgery finds its greatest activity. With a history of long-continued indigestion followed by the onset of this diagnosis-making train of symptoms, a cure by surgery can hardly be gainsaid.

The fourth stage of disturbances of the gall bladder and its adnexa is characterized by chronic gastric symptoms simulating those of peptic ulcer, from which it can be diagnosed only by a careful history.

Given a patient of long standing stomach symptoms in which the usual test meal affords no light it would seem to me that the chief end of service to that patient had been obtained when the necessity for surgery had been realized and the patient sent with a diagnosis of surgical, abdominal trouble.

Passing now to the dyspeptic type of chronic appendicitis, suffice it to say that for a long time it has been noted that long-standing dyspepsias were cured in patients, who, having been treated for years for stomach trouble, finally came to operation as the result of an acute appendicitis. This very interesting fact has led us to consider always in trying to arrive at the cause for a given stomach disturbance, the likelihood of a chronically inflamed or adherent appendix being the real pathology. From the Mayo clinic comes a recent report of 115 selected stomach cases in which ulcer, gall stones, and the usual medical affections had been eliminated by careful histories, physical and laboratory investigations, showing 77 per cent of complete cures; 17 per cent improved, and only 5 per cent unimproved. In all these patients the predominating symptoms were referred by the patient to the stomach, but relieved by the removal of a diseased appendix with due regard to caecal and colonic adhesions.

In the handling of gastric and duodenal

ulcers a common ground is occupied by the medical and surgical members of our profession. This condition will be mentioned as the purest type of indigestion or dyspepsia. Ulcers of the stomach and duodenum present a clear cut, definite and regular symptomatology. In this age of early exploratory laparotomy revealing the pathology which acted as a stumbling block in the past to both clinician and surgeon, it should not any longer be extremely hard for the medical man to correctly diagnose these cases. It will be noted that long before the presence of the ulcer is suggested by vomiting of blood the patient has suffered from the peculiar and characteristic dyspepsia of this disease. In the same way we have learned to diagnose and appropriately handle by surgical measures, our cases of gall stones while stomach symptoms only are being presented, antedating duct-obstruction and adhesions about the bladder which pathology produced the "yellow flag" warning of our fathers. The dyspepsia arising from ulcer of the stomach or duodenum can be satisfactorily handled by medical treatment when diagnosed early and a strict regime followed. It is in the late cases when adhesions have formed distorting the pylorus or obstruction occurred from contraction of scar tissue, that surgery comes into brilliant play. The surgeon, after revealing the real pathology in this group of doubtful stomach cases, enabling the internist to correctly interpret the symptoms when presented and in time to offer a cure by medical means, having thus served the profession in a most signal way, has receded from the ground originally held that all cases of ulcer should be subjected to operative interference and now advocates this resort when medical measures have failed or complications arisen making it more or less imperative. I will not go into a discussion of whether simple gastro-enterostomy or resection of the ulcer-bearing area should be practiced as a means of cure. At the present time the question is unsettled, both schools having brilliant men who persistently champion their respective views on the subject.

Passing lastly to the question of cancer of the stomach as a cause of dyspepsia, I will say that of all the diseases lurking in this region of doubt and tragedy, this should command our most earnest attention. Cancer of the stomach, according to post-mor-

tem findings, stands at the head of the list of carcinomata. Various investigators place the per cent ranging from 50 down to 25, this being the lowest estimate I have been able to find. To place the subject in a more significant light, it has recently been estimated that out of every 200 patients ill enough to be admitted to a hospital for treatment one had cancer of the stomach.

Now, the question that concerns us is, how are we to discover the presence of cancer in order that it may be dealt with before passing into the inoperable stage. Answering, I would say, first, we must get ourselves out of the habit of looking upon indigestion as having a definite significance, per se, and realize once for all that it is a confusing term, presenting a more confusing group of symptoms that can convey no valuable information to an intelligent mind except that when the patient uses it he has some sort of trouble for which he holds the stomach accountable, and quit excusing ourselves for simply prescribing a bitter tonic and letting our patients with indigestion go on, failing to realize that back of this complaint and calling in this unpretentious way, there is a pathologic cause that demands the very best that is in us in order that it may be discovered and our patient given the benefit of whatever relief may be offered in the particular case.

To give the patient this benefit, cancer must be discovered early, long before it becomes palpable, and in not a far distant day it is safe to predict that cancer will be largely cured by early attack and radical treatment of the preceding lesions, let it be stomach or duodenal ulcer, scar tissue, constant irritants in the form of stones in the gall bladder or ducts, lacerations of the cervix, chronic appendices, growths resulting from injury, superficial warts, moles, etc.

In concluding these rambling remarks upon an interesting and ever-broadening subject, permit me to urge upon you the fact that when a patient presents himself complaining of a group of stomach symptoms, we have to consider that these may depend upon lesions in the stomach itself which are very few; upon lesions of the duodenum, gall bladder, liver, appendix or other portions of the alimentary tract, which are numerous; upon lesion of the nervous system; upon pelvic conditions in the female, or upon certain of the purely medical diseases. Having ex-

cluded the disturbances due to general and reflex causes, we may justifiably assert that the stomach itself is the seat of the disturbing pathology, and this being done, we are confronted with the strong probability of cancer being the true cause leading the patient to seek our aid and counsel.

Concluding, I would say that until laboratory methods are more constantly borne out by the findings at the operating table or in the dead house, and until more precise diagnostic methods applied to the various abdominal conditions shall have been discovered, when a patient comes to us complaining of pain, uneasiness, dyspepsia, symptoms referred to the stomach or general abdomen—he needs a diagnosis—and if we are able, as we should be in every case, to place ourselves in our patient's position and still offer the same advice, **there is but one way to make a definite diagnosis**, and that is by exploratory laparotomy. Hence, I say, in great earnestness, explore more often and guess less.

THE TREATMENT OF BRONCHIAL ASTHMA WITH AUTOGENOUS VACCINES.*

C. W. Findley, M.D., Broxton, Ga.

Report of Case—In presenting this paper I shall only speak of a case of bronchial asthma, which I treated with autogenous vaccines during last year, with the result of a probable cure.

I better say here that I would not have you believe I feel with all certainty that autogenous vaccine is a specific treatment for bronchial asthma; for my experience is limited to one case, and sufficient time has not passed to say the patient is cured. However, the improvement of the patient is so marked I thought it would be well to make report of same.

Patient—A white girl, 17 years of age, came to my office about the first of October, 1915, suffering with an attack of bronchial asthma. In taking general history she informed me that she had been suffering from those attacks for six or seven years, during which time she had taken treatment which was only palliative. The attacks coming on

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mostly at night and very severe, so much so that she was unable to lie in bed, but would have to sit up in order to make easy her breathing. Previous to the onset of the asthmatic attack, she gave history of having had colds and coughs from time to time; history otherwise negative.

Physical Examination—Inspection: patient emaciated, very labored effort in breathing, chest moving but slightly. Percussion negative. Auscultation revealed sonorous and sibilant rales over entire chest, both inspiratory and expiratory. Physical examination otherwise negative.

At my request she saved for me some of her sputum, and it was examined for tuberculosis, but was negative. I had the sputum examined for tuberculosis, not that she had symptoms of tuberculosis, but to satisfy the family, as they had been thus informed. Then I had another specimen examined from which autogenous vaccines were prepared. At this time I sent the sputum to Dr. Bunce, of Atlanta, with the report that the influenza bacillus and staphylococcus were present. Vaccines were prepared in the same proportion that they were found in the sputum and put up in the following doses: (6) containing 300,000,000 each; (8) containing 500,000,000 each; (7) containing 700,000,000 each. I administered them subcutaneously with an all-glass hypodermic syringe, sterilized by boiling each time, taking outer aspect of arm for site of injection which I thoroughly cleansed by applying tincture of iodine and alcohol. I gave them in ascending doses; for first 8, 7 and 6 doses I gave 1,000,000 to 300,000,000 organisms at a dose three times a week; then I gave (8) doses of 500,000,000 each, followed with (7) doses of 700,000,000 each with the same duration of time intervening. Within a few hours after first five or six doses there was slight swelling, redness and soreness about area of injection, accompanied with slight elevation in temperature, after which no other complaints were made.

Patient had only one attack of dyspnea in beginning of treatment, after which she has felt well and seemingly in good health. Before treatment she weighed 95 pounds, and at end of treatment she weighed 103 pounds. Physical examination of chest negative.

Permit me to say in conclusion that the value of serumtherapy in infectious and contagious diseases is practically well known to

the medical world, but I fear there are many physicians who are inclined to doubt its efficacy and confine its broad field of usefulness within narrow channels.

DISCUSSION ON THE PAPER OF DR. FINDLEY.

Dr. A. H. Bunce, Atlanta: I wish to congratulate Dr. Findley on the results he obtained in these cases.

Recently, in making a survey of the field in trying to find out the present status of vaccine therapy I sent inquiries to about 40 or 50 of the leading men of the United States asking them as to the present status of vaccines in the treatment of infections. Their replies varied greatly, but the consensus of opinion seemed to be this, that in chronic localized infections vaccines were of value; that in infections of bone structures, where diseased tissue was removed, vaccines were of value. In the prevention of typhoid fever they are of value and in skin lesions.

Dr. Billings, of Chicago, has done a great deal of work in treating bronchitis and asthmatic conditions with vaccines, but the results have not always been satisfactory. Therefore, I was surprised at Dr. Findley's results with vaccines in these cases.

If you have the exciting cause, you may isolate the organism causing the trouble, prepare a vaccine, administer it properly, and yet you do not always get the result you expect. However, from what we know about these conditions in which other methods have failed, it is at least worthy of trial. I also think that we get the best results by preparing autogenous vaccines because we get the particular organisms causing the trouble in this patient, and we do not get in the stock vaccines the various organisms which may or may not be present. Although the organisms may have the same name, they may vary in virulence and poison in the system, and we should get a vaccine for the particular trouble and particular patient.

Dr. E. C. Thrash, Atlanta: Vaccines have their field of usefulness, but they are so exceedingly unpleasant, and the physician, in order to get results, has got to continue to use them without being discouraged, perhaps after having been satisfied that they will not bring about a cure.

There are two primary reasons why vaccines are not of value, or are not of as much

value as they may seem. One is the source of infection, and the accumulation of bacteria and detritus from an inflammatory process is, in a measure, pent up. In these cases vaccines are of no value. A person is wasting time to give vaccines in cases of osteomyelitis. He is wasting time if he has dilated bronchial tubes and enlarged pulmonary tubes where there is sacculation or pent-up pus. They are of value in conditions like pyorrhea alveolaris. However, it is folly to give vaccines in cases of pyorrhea alveolaris when pockets are filled with pus all the time. If you can open up those pockets and scrape away the dead tissue and clean out the dead bony structures, and so on, you can get results from the use of vaccines. They will be of value in cases of osteomyelitis if you cut down and clean out every particle of dead bone so that there are no pent up bacteria.

Another reason why they are not valuable is the name of the germ does not mean that that germ is producing the specific type of infection. The streptococcus is as variable as the staphylococcus. It is the same way with the pneumococcus. Stock vaccines are, for that reason, of uncertain usefulness. Autogenous vaccines have the same faults. In the sputum from a patient's lung you may get every type of germ the air contains. Those that are not pathogenic will not grow luxuriantly. You get a vaccine made up wholly of innocent or innate germs and very few pathogenic germs. The germs to be considered in making an autogenous vaccine are the streptococcus, staphylococcus, pneumococcus, and the bacillus of influenza. Those are the important ones. When you make your planting you get a luxuriant growth of staphylococci. Your streptococcus growth grows poorly. The pneumococcus grows still more poorly, and the bacillus of influenza will not grow at all. You have left out the most important germ—the staphylococcus, which plays a part, but it comes in secondarily in these cases. If you get a lung that is fairly clean, although infected, where you make a growth of staphylococcus or of bacillus influenza, they ought to be supplemented by the streptococcus. They ought to be supplemented by the staphylococcus and pneumococcus. So the ideal vaccine that you get is to take an autogenous vaccine and reinforce it with some of your stock vaccines. This will give results in many cases of asthma.

I have treated quite a number of cases. I have proved the reverse. The vaccine itself is a metabolic product from all bacteria that are affecting the lung. If you give large doses and produce a decided reaction your asthma will stop this spasmodic condition, and, in all probability, you relieve the asthma by producing a toxemia and vaccinating, so to speak, the vascular structure of the tubes. I have, in many instances, treated asthma with vaccines and got only a temporary cure, not a permanent one in any instance. I have in ten or twenty instances given vaccines and got temporary results as long as I continued to give them. My opinion of the results from the use of vaccines is that they are due more to their producing a toxemia and a possible relaxation of the muscular structures than to the fact that they produce a healing process which will overcome it. Asthma is a neurosis and not an infection; infection produces irritation and causes a neurosis and induces contraction.

Dr. M. A. Clark, Macon: I wish to say to the members of this Association that I am a living example of the benefit of vaccines. Prior to the use of vaccines I used to have two or three attacks of so-called la grippe each winter, and suffered from colds and aches. I have used stock vaccines because they are more convenient. I have escaped having la grippe or so-called influenza for three successive winters, and this winter I have not ached any and you see how much I have gained in weight.

My experience with the use of vaccines has been that the results are good, and I have not jumped at conclusions. My youngest patient was 9 months, and my oldest patient was 76, and I have used them in patients whose ages ranged between those I have mentioned.

These vaccines are not cure-alls. They are largely preventive. Most satisfactory results have been obtained from giving them beforehand to prevent disease. Their therapeutic value is especially shown in cases of infection due to influenza or whatever the infection is. It is more than a common cold. The micrococcus catarrhalis plays an important part in these infections. In these cases there is a tendency to middle ear trouble or frontal sinus trouble.

One of our specialists some time ago said he had not had a frontal sinus operation

since he began the use of vaccines. In several instances where there has been beginning trouble with the middle ear, noticeably in children, I have administered vaccines with benefit in every case. I have used the influenza mixed vaccine, or the combined. Within 36 hours after the first dose in most instances I have seen some little benefit, and I have seen benefit in all cases after the administration of the second dose.

A difficulty I have found is in determining the dosage. I do not know how to gauge the dose. However, from the experience I have had I am giving larger doses of it.

I do not agree with Dr. Thrash relative to the reaction brought about by these vaccines. I have had an idea as to the way they work, but I can not explain it clearly to you. The results have been very pleasing, indeed. In several instances, where we have had broncho-pneumonia following influenza, the results have been good from the use of these vaccines. I am a decided advocate of the use of vaccines wisely and in properly selected cases. I agree with Dr. Bunce that if we can prepare an autogenous vaccine it would be better. The complaint made of stock vaccines is that they are a kind of gunshot prescription. In this combination we have several kinds, we have the same effect of the medicines counteracting each other. In these vaccines the staphylococcus does not interfere at all with the effect of the micrococcus catarrhalis, or with the pneumococcus or influenzal bacillus, and there is no objection to using them.

Dr. Findley (closing): In regard to the etiology of bronchial asthma, I do not know, but perhaps it is a neurotic condition. It is not always due to nasal polypi or enlarged tonsils, but nevertheless they may give rise to asthma. But where we can not find other conditions which produce the asthmatic condition, I think it would be well for us to look out to see whether there is any organism that will give rise to the irritation.

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SALVARSAN IN THE TREATMENT OF SYPHILIS.

By Cosby Swanson, M.D., Atlanta, Ga.

The announcement of the specific influence of salvarsan on syphilis was published by Ehrlich in 1909, after a most painstaking research for a substance that would kill the treponema, and was later introduced to the profession in the early part of 1910. The use of salvarsan in the treatment of syphilis since then has passed through several stages and its final position is not yet entirely fixed on account of the chronic nature of syphilis. However, it has passed through the experimental stage, and we can now make some definite statements as to its effect on syphilis. It is generally admitted by all physicians that salvarsan, properly used, is the best drug we have to relieve the symptoms of syphilis.

The fact that it has not fulfilled our expectations is no reason why it should be condemned. Many of the bad effects, non-cures and deaths ascribed to salvarsan could be avoided by proper technique, caution, etc. Salvarsan is the best drug we have to protect a syphilitic from the dangers of his infection, and is indicated in all syphilitics, especially in early cases, in resistant palmar and plantar eruptions; in mucous membrane lesions of the mouth; in malignant syphilis; in rapidly destructive lesions of the nose and throat, and ulcerative lesions elsewhere. It is contraindicated in severe valvular heart lesions, aneurysms of large blood vessels, late pulmonary tuberculosis, gastric or duodenal ulcers, acute yellow atrophy of the liver, diabetes and infancy.

Salvarsan should be given as early as possible in every case. The chances of a cure is many times greater when the treatment is begun early. It not only relieves the patient of his symptoms, but makes him less of a menace to his fellows. Many cases of years standing, after being treated with salvarsan, showed marked improvement, all lesions readily healed, general health improved with incredible rapidity, their weight increased, the anemia that is so frequent in these cases, rapidly disappeared, giving them an optimistic view of life. Salvarsan acts by causing the production of antibodies against the tre-

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ponema, and at the same time kills all treponema that are within its reach; those that have not been surrounded by a protective wall. On the other hand, mercury acts only by increasing bodily resistance against the treponema. Ehrlich's theory that salvarsan acts directly on the treponema can be proven by the fact that here is a rapid disappearance of the organisms from the lesions within 48 hours after its administration, that more salvarsan is found in luetic lesions than in normal tissues, and that salvarsan and salvarsanized blood destroy the power of treponema to infect animals. Salvarsan may be given intravenously, intramuscularly or intraspinaly. The subcutaneous method of administration has been abandoned owing to its disadvantages. Rectal injections are of no therapeutic value. The local use of salvarsan is inferior to other local applications.

The technique of the intramuscular injection is as follows: .6 gm. of salvarsan is dissolved in 6 c.c. of distilled water, a drop of phenolphthalein is added and then sufficient caustic soda solution is added to neutralize the acidity of the salvarsan. The injection is usually made in the muscles of the buttocks, equal amounts being given in each side. Intramuscular injections should be given only in children or cases where the veins are imperceptible or impalpable. Salvarsan given in the muscles is followed by pain, often induration, in some cases sloughing. Its after-effects have caused the majority of physicians to abandon this method of administration.

Oily suspensions of salvarsan are also used intramuscularly. It is injected, as is the watery solution, is followed by less pain and is less apt to cause necrosis.

In giving salvarsan intravenously the salvarsan is dissolved in about 20 c.c. of fresh distilled water and then drop by drop a 15% solution of sodium hydroxide is added until the solution is neutral or slightly alkaline in reaction, as is indicated by the solution becoming clear on shaking. This usually requires about 18 drops, then enough normal saline solution is added to make 200 c.c. solution. A smaller amount of the solution may be used and is preferred by many; some using less than 100 c.c. I personally prefer to use about 180 c.c. when giving a full-size dose.

A prominent vein is selected, usually at the bend of the elbow to inject the solution

into, using the usual surgical technique in doing so. Direct puncture of the vein without incision is decidedly the better and easier method. I often give five to six doses in the same spot and vein, which goes to show the small amount of injury to the vein. I prefer the gravity method in all cases when a full-size dose is to be given, and use the pump method only when giving a small dose.

The intravenous method is now being used almost exclusively; I believe that the intravenous method of administering salvarsan is the only method that one is justified in using in the majority of cases. The best method of administering salvarsan intraspinaly is as salvarsanized serum according to the Swift-Ellis method.

After the injection of salvarsan there is often fever, headache, nausea, in rare cases retention of urine, intra-abdominal pain, cutaneous eruptions, angioneurotic edema, and at times the patient feels quite ill for a day or two. A number of deaths have been reported, due to salvarsan, but very few, when one considers the number of injections that have been given. In the majority of cases the bad effects of salvarsan are due to too large a dose, too concentrated a mixture, improperly mixing the solution, organic or inorganic substances in the water, or some organic insufficiency, especially of the kidneys. Martin is of the opinion that the slight rise of temperature, headache and nausea, is due to the liberation of the toxin from the killed micro-organisms and that the severe disturbances occur from the disintegration of the blood cells. This is characterized by one or more chills and a fever running at times to 103-104 degrees F.

To prevent or lessen the bad effects of salvarsan, a laxative should be given twelve hours before administering the drug; it should not be given after eating a full meal. A careful chemical and microscopical examination of the urine should precede each injection and in all cases exhibiting diseases of the kidneys, liver, lungs and heart, small doses should be given and in some cases it should be preceded by mercury and iodide of potash.

The nervous manifestations that sometimes follow within a short time after the injection of salvarsan can be prevented, at least greatly lessened, by giving a dose of adrenalin a few minutes preceding the injection.

In giving salvarsan for syphilis, opinions differ as to the size, number and the interval between the doses. The full-size dose recommended by Ehrlich is one centigramme of salvarsan, or 1.5 centigramme of neosalvarsan per kilogramme of the individual's weight. Four to five doses of salvarsan should be given to every patient and followed up by a thorough course of mercury. It is generally conceded by most syphilographers that when one to two doses of salvarsan are given and not followed up by mercury, recurrences, particularly neuro-recurrences are most common than in cases where no salvarsan is given.

In early cases of syphilis before the Wassermann reaction becomes positive or any clinical symptoms of a general infection are apparent, salvarsan and mercury should be given as follows: .3 gm. of salvarsan, five days later .4 gm., seven to ten days later .6 gm., fourteen days later .6 gm., seven days after the last dose of salvarsan, begin giving mercury, and continue mercury for three to four months, giving the maximum dose up to ptyalism. Treatment is discontinued for three months; at the end of this time two more doses of salvarsan are given, fourteen days apart, followed by another course of mercury. Twelve months after the second course of mercury, should the patient show no symptoms of the disease and the blood gives a negative Wassermann reaction, treatment should be discontinued, but patient should be kept under observation for from two to three years. In cases of general infection, after the rash appears, glandular enlargement, etc., salvarsan and mercury should be given intermittently for from two to three years. The first year two courses of salvarsan and mercury should be given the same way as in the early stage of the disease. Four doses of salvarsan should be given, the second and the third years, giving two doses in the spring and two in the fall, followed by a course of mercury. At the end of three years if no symptoms of the disease is present, and the blood gives a negative Wassermann reaction the treatment may be discontinued.

In late stages of syphilis after the sixth month of the infection and before any apparent involvement of the nervous system, salvarsan and mercury should be given as described above in the early general infection with another year added, giving the treatment for from three to four years.

In cases that show involvement of the nervous system the patient should be put under the influence of salvarsan as quickly as possible, at the same time exercising special care. Salvarsan should be administered every four to seven days until five or six doses have been given. Small doses should be given in the beginning and gradually increased until the full-size dose is given. In those that show no contra-indications (patient in good condition) a series of four or five intraspinal injections should be given, Swift-Ellis method, waiting each time until the patient has fully recovered from the previous dose. In some cases, especially in tabes, the intraspinal treatment can not be given on account of the terrific reaction, the pain often being excessive.

The patient should be given two to three months' rest from the salvarsan treatment, and during this time mercury should be given. The treatment should be continued from three to six years. In late stages of syphilis the number of doses of salvarsan may be reduced by giving large doses of iodide of potash for a few days before giving the salvarsan.

The iodide causes absorption of the necrotic tissue which, in late syphilitics, forms a protecting wall around the spirochetes. This sets the spirochetes free in the blood so that the salvarsan and mercury are very much more effective. In secondary and late stages of syphilis, lack of symptoms, a negative Wassermann reaction, even a negative result of the spinal fluid, is not sufficient proof of the eradication of the infection, and the treatment should be continued for a time after the Wassermann reaction has become negative.

In retinal, and optic nerve lesions, cardiac and aortic diseases, arteriosclerosis, diseases of the nervous system, advanced cases of pulmonary disease, chronic nephritis and hepatic diseases, salvarsan should be cautiously given in small and often-repeated doses. In some cases it should be preceded by mercury and the iodides.

In pregnant women small doses not over .2 gm. per week should be given. In pregnancy the heart and kidneys are already congested, and to avoid further congestion small doses are indicated. In pregnant women the treatment not only protects the mother against infection, but if begun early, and with sufficient energy, the child may escape the infection. In cases where the

foetus becomes infected, by treating the mother, a small amount of salvarsan passes through the syphilitic placenta, thereby often eliminating the disease in the foetus.

In nursing syphilitic infants salvarsan given to the mother does not have any permanent beneficial effect on the child, through the medium of the milk. The temporary beneficial effects are due to the transmission to the child of the antibodies that are formed in the mother, and not to the salvarsan directly.

In syphilitic children the administration of salvarsan is sometimes difficult. If the medium vein of the elbow is selected, a dissection will be necessary in most cases; to avoid this the jugular or one of the veins of the head, especially the post-auricular may be used. The dose of salvarsan to children is about 5 mgr. to each kilogram (2 1-3 pounds) of the body weight.

Salvarsan is largely eliminated through the kidneys and gastro-intestinal tract, the amounts being about equal. It has been found in the urine five minutes after its intravenous injection and only traces after five hours; and after five hours, traces for several days. It does not remain in the blood very long. It is deposited in the parenchymatous organs, especially the liver and kidneys, and gradually reabsorbed.

In point of efficiency salvarsan heads the list over all imitations. The disadvantages of neo-salvarsan are its rapid oxidation, sometimes making it necessary to add a few drops of sodium hydroxide. It has less healing effect than salvarsan. After its use, recurrences of symptoms occur oftener than after salvarsan. To receive the same beneficial effects with neo-salvarsan as with salvarsan, it should be used in smaller and more often-repeated doses, and twice the total amount of the drug. Diarsenol and arsenobenzol seems to be less stable than salvarsan and fully as toxic. They have not been in use long enough to form an opinion as to their value in the treatment of syphilis.

By the accumulation of facts we have been forced away from the belief that salvarsan alone cures syphilis, even when given in frequently-repeated doses; nor has it shortened the time of the treatment except in very early favorable cases. It has been demonstrated conclusively that combined salvarsan mercury treatment far excels the mercury-iodine treatment of syphilis.

The advantage of salvarsan, especially in early infections, is that its effect is greater, therapeutic action more lasting, and the course of the disease is shortened in primary cases. In primary cases and ulcerating lesions, especially of the lips and mouth, the lesions are removed; thus the danger of infecting others is prevented, and there are fewer chances for developing serious complications of a destructive character in vital organs.

We have reason to hope that the work of Ehrlich in producing salvarsan will be followed by still other triumphs in the war against syphilis.

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A PLEA FOR A FULLER RECOGNITION OF THE IMPORTANCE OF PSYCHICAL DISORDERS IN MEDICAL PRACTICE.

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In this country with the advent of refined surgical methods the practicing physician went on a surgical spree. Surgery, as an art, is old, but surgery as a science was young, and as is true of all new things there was a general tendency to radicalism in its practice. It was the ambition of every young practitioner to become a surgeon, and there was a tendency to operate for nearly every condition under the sun. Frequently there were very disastrous results following upon operative procedures in the hands of neophytes and quite frequently when there were good results, they were consequent upon the enforced rest in bed and good hygiene subsequent to the operation itself. And so woman after woman with hysterical manifestations were forced into a premature menopause and robbed of the God-given attribute of child-bearing through some enthusiast who could cure hysteria by the removal of the ovaries. The ovaries were the offending organs presumably which were giving the patient these abnormal mental traits and being the offenders, they must be removed. And so we had a long train of poor mutilated mortals not helped by their mutilation, but with their symptoms actually exaggerated, victims of a new regime.

Good, old-fashioned medicine was forgotten in this mad rush for a field which was both spectacular and lucrative, and only a small class of conservative men were left to plod along this lonely way. These men worked steadily and diligently at their task, and gave to the world little by little revelations of what could be done in the sphere of the internist. Little by little new discoveries were made until men in our medical schools began to wake up to the fact of the tremendous value of internal medicine and the large field for investigation which this sphere of activity opened up to one's vision—to the vision of one who was not blinded by the glare of spectacular surgery.

About this time the ghosts of the victims of radicalism in surgery began to come back, and it began to dawn upon the consciousness of the few that the thing was being carried too far. Men began to wake up to the fact that surgery was indeed a specialized branch of medical practice, and hence should be in the hands of a highly specialized few. They began to realize, too, that he who practices surgery must have years of training before he is equipped to take up its actual practice, and then out of this grew still further specialization in surgery, a division into abdominal work, gynecological, neurological, etc., and finally there has dawned the era when the medical profession realizes that surgery is a therapeutic measure, that not the technique and spectacular count for so much as the judgment and after treatment, and that this department of therapy must remain in the hands of a few highly trained individuals.

With the advent of this era men began to turn more and more to the field of internal medicine, and in proportion as men became saner and this field became more and more popular to that same proportion has it developed and grown. The ghost of surgical radicalism was laid finally, and would walk no more. Internal medicine is in its infancy, and to him with sufficient imagination and with some of the qualities of the dreamer, the vistas of the future are filled with stupendous possibilities. There is no end to them, and he who travels shall learn.

The South has been unusually slow to follow in the wake of advance. I can say this with all due reverence, because I am a dyed-in-the-wool Southerner, and there still exists a woeful tendency for any and everybody to feel he can practice surgery, and, unfor-

tunately, we still have coming into our offices the victims of this pernicious habit.

The fault lies at one point and one only, and that the lack of a well-rounded medical education. It is simply gross ignorance, and the one field of which the average Southern physician is as ignorant as the savage in darkest Africa is the field of Psychiatry—mental disorders. If one were to take a census of the average Southern practitioners of today, one would be utterly dumbfounded at the large number of them who are actually unable to recognize the existence of a mental disturbance. If this disturbance is of a gross sort where even the neighbors recognize it, then that individual is simply "crazy," and he is sent to some institution. But where there is a disturbance of a lesser degree coming in the domain of Psychasthenias or Minor Psychoses, the average man doesn't know of its existence, and yet these same men feel themselves perfectly capable of coping with the condition. The individual affected comes into his office with a long list of physical complaints, the outcrop of the mental condition, and the practitioner goes ahead and treats these physical ailments, whereas there is actually no pathological condition present in the patient at all.

And what is the result: The result is two-fold: First, we find case after case operated upon for various and sundry conditions. In women it is usually some gynecological procedure, such as eurette, or "suspensio uteri," or, I blush to say, there is often supposed to be present some obscure condition of the ovaries which warrants their removal. And we have a woman either receiving no benefit or actually made infinitely worse. I have actually known of five operations for chronic appendicitis on individuals suffering from hysteria and consequent gastro-intestinal disturbances where no appendicitis existed. Of course, one could enlarge upon one's imagination and find pathological evidences in the appendix, but how many appendices do you suppose one could find to be absolutely normal in adult individuals? No more than you can find absolutely normal lungs in adult individuals. And so the first result is the subjection of the public to operative procedures which are expensive and deleterious.

Secondly, the non-recognition of the existence of abnormal psychical states delays or actually blocks the institution of proper

therapy in these cases. When these cases come to the psychiatrist they are usually of of advanced standing and sometimes developed to a well-nigh hopeless stage. It is true in psychiatry, as in nearly all branches of medical science, that the earlier we get our cases the better the prognosis. As it is the patients who come to us have usually been treated by physician after physician, have had numerous operations, and are depleted in strength and purse, when a recognition of a simple nervous disorder in its incipency with the institution of proper therapeutic measures would have brought about speedy and satisfactory results.

This ignorance is strange, too. For magazines throughout the country are filled with articles for the laity on psychical disorders. Why are our practitioners so slow to get in line? The only solution is that they should acquaint themselves with the basal principles of psychiatry. The recognition of the existence of abnormal states is comparatively simple, and where recognized they should be sent to the man who is doing that sort of work.

Psychiatry is in its infancy, but it is a field for large usefulness. It is developing rapidly. And what untold good can be done for the poor sufferers in this field if we can only get them early enough.

A PROBABLE CASE OF OVARIAN PREGNANCY.

J. I. Garrard, M.D., Georgia State Sanitarium, Milledgeville, Ga.

Family History.—(Obtained from patient.) Father, over 60, cripple from rheumatism, otherwise well. Mother over 60 and well. Subject to dysentery every spring. Has two brothers and six sisters. Four sisters are dead. One died when a baby; one when 2 years old, cause unknown; one when grown, cause unknown; one died following a miscarriage. Two brothers are well. Thinks one sister has pellagra. The rest of them are married; all had children, except one, all complain of female trouble. Denies syphilis or tuberculosis in her family.

Personal History. Age 25. Had mumps, measles, pneumonia when a child, otherwise healthy. Married in January, 1913, age 22.

Menstruated regularly at that time; but the spring and summer before her marriage had been in bad health. Claims that I examined and told her that her right ovary was enlarged; that it looked as though she was pregnant, but that I was not positive, as her menstruations were regular. Was in bed for nine days, had pain all over her abdomen, and a knot in her right ovarian region. She was given medicine and went home for seven days. The knot and pain gradually disappeared. Claims that her abdomen did not distend. Had a yellow discharge from vagina during the spring of 1913, after her marriage, and evidently had cystitis. In time the color of the discharge changed from creamy to white, but persisted. July, 1914, had her first flooding spell. Did not go to bed; continued her duties as a nurse, and was only given medicine. About March, 1915, had the second flooding spell—duration eighteen days—was in bed for eight days. Was examined and told that she had a cyst and needed an operation. Seven days following menstruated. The third flooding spell was in October, 1915. Came unwell and was profuse for two weeks, was in bed for seven days. Always performed her duties as a nurse after these attacks; always weakened her, but no more pain than her usual menstrual period would cause. She had no vomiting or probable signs (other than the flooding spells) to cause her to suspect pregnancy. Off and on from the first attack until operation, complained of general pains over the lower abdomen, which was not any more noticeable at menstrual epochs than between her periods.

Operation November 25, 1915—The usual preparation; ether anaesthesia by Dr. Pettit; curettage and considerable debris was removed from the uterus. Owing to the depth and fundus of the uterus above pelvic brim, extra uterine pregnancy was suggested. A medium section of abdomen and the intestinal and perietal peritoneum adherent. On entering the cavity there was general peritoneal adhesions of the intestines and to the uterus, which were separated without difficulty. A piece of omentum adherent to the tumor was ligated off and removed. The uterus was about the size of a 3-1-2 or 4 months' pregnancy. The cystic tumor on the right side was distinct, no ovary visible. The fallopian tube was swollen, was ligated and removed. It was impossible to deliver

the cyst—balloon in shape, broad adherent base and about the size of a large cocoanut. In attempting to dissect through the layers of the broad ligament from above, which was quite thin, the cyst having taken its place and was more from an anatomical standpoint than real, I opened into the cyst. A clear fluid escaped and noticed protruding inside the sac a mass simulating the yolk of an egg, and told my assistant, Dr. Longino, it looked like a sac within a sac. The ruptured opening was clamped and a broad base at lower uterine segment was transfixed with catgut and the cystic mass was removed. Beneath the clamp along the line of incision a white creamy pus was observed. Through disinfection of the stump and a drainage was left in. The folds of the broad ligament were sutured together. There was considerable drainage, pus like in character, for a long time after the tube was removed. The cavity in the localized area was irrigated with warm boric solution. The patient made an uneventful recovery. The patient menstruated three days following the operation and regularly every month since; was free from pain, except last month, when she had slight pain. Does not complain of having any abdominal pains. Has had leukorrhea since the operation. Appetite is good; bowels regular; no trouble in urinating.

April 4, 1916. The patient was examined vaginally with specula and digital. The uterus is contracted well into the true pelvis, retroverted to the left, slight thickening in the adnexa at base of tumor removed, has leukorrhea.

Conclusion. Patient was evidently pregnant in 1912 and had a general peritonitis—tubal infection—and from what I recall there was some distention of the abdomen. The “knot” in the right side was the right ovary which gradually disappeared when it became fixed at lower uterine segment. There was considerable enlargement of the uterus and cystic mass from the time of my first examination. It is impossible to date the death of the embryo and can only determine from the size of the uterus, evidently in 1912.

Journal American Medical Association, January 8, 1916, note the following article on ovarian pregnancy: “The development of the placenta and its persistence for two years after the death of the embryo in the case reported illustrates the independence between the development of the placenta

and that of the foetus. The young woman had long pleaded for operative relief from pains in the pelvis and amenorrhea, but as nothing could be found to explain them, the operation was deferred from time to time until a tumor became evident in the region of the ovary. The uterus was found to be atrophied to a considerable extent. The patient had an abortion nearly a year after the ovarian tumor had been removed.”

The two cases differ in the following respect, viz.: The history of the present case was over three years' duration. The colored mass at the base of the tumor was evidently the placenta, but unfortunately, in the colored department they failed to send a complete specimen to the laboratory—sent only the sac. The patient although had pains off and on and was the result of peritonitis, she was not urgent for an operation at any time. She was regular in menstruating; never had amenorrhea. The uterus was enlarged and remained so until after the operation.

May add that the patient was a nurse in my service for over four years; if she had become pregnant and had had an abortion or miscarriage I would have been aware of the fact. She never had a sudden attack simulating a tubal rupture.

SURGICAL SUGGESTIONS.

Do not forget that bladder symptoms, such as attacks of pain, retention or incontinence of urine may be due to tabes or other nervous system disease.

Dribbling of urine in a bed patient may be due to an overfilled bladder (overflow incontinence). Pass a catheter—if the bladder is full the diagnosis is certain.

Bleeding from the uterus in a young woman is a good reason not to use the curette. The hemorrhage may be due to inflammation of the tubes, to ectopic gestation or to incomplete abortion.

Do not massage the fundus in the third stage of labor. Massage irritates the uterine muscle, favoring hemorrhage and retention of the placenta. When the afterbirth is loose the small hard fundus is felt riding on top of the dilated boggy vagina.

Sedentary habits shorten life?

A COMPARATIVE STUDY OF TWO CASES OF TUBAL PREGNANCY TERMINATING IN RUPTURE.*

E. M. Stokes, M.D., Moultrie, Ga.

At the outset I ask the reader to refer to The Journal of July, 1916, wherein I reported the first of these two cases. As then stated, that case represented my only experience with this peculiar ailment of the female sex. But three months later I had the pleasure of observing another case. I term it a pleasure because, although these emergency cases mean anxious work for the physician, it is through just these means that we become fortified and scientifically trustworthy.

I also would suggest that notice be taken of the strange lack of similarity as regards symptomatology of these two cases. As we all know, the text book is no criterion in many types of cases, and it is for this very reason, combined with urgent requests from members of the local profession, that I take pleasure in presenting this second case to the professional public.

Case No. 34—Mrs. M.; age 22. Excellent specimen of physical health. Primipara.

Past History—The only point worthy of especial note is a history of dysmenorrhoea, with the pains located especially in the right lower quadrant. I delivered this patient of a fine boy baby ten months before the present ailment occurred, the parturient process being perfectly normal. Mother and baby both made fine progress until this condition arose.

Two months ago she had her first return of the menses, which appeared to be normal then. But two weeks later she again began to menstruate, and finally developed a mild degree menorrhagia. Patient now began to lose weight and look anaemic, and complain of a weighty and uneasy feeling in the lower abdomen. The usual line of tonics were given, with but little effect. The menorrhagia next ceased, and she went two weeks free of menstrual flow, but still complained of the unpleasant feeling in the lower abdomen, and suffered a moderate leucorrhoea.

Present History—I was called to her bedside hurriedly, and found that she had again been menstruating for four days, with a gradual increase in both the flow and pains. But the pains were not very severe, were

not localized, and palpation elicited practically no tenderness, rigidity, nor distension. I suspected a uterine displacement, made a vaginal examination, and searched out very thoroughly every angle of the vaginal cavity for enlargements or tenderness, but she asserted that there was practically no tenderness anywhere. There were no evidences of a local tumor, and no uterine displacement. I, of course, put her on the usual treatment for menorrhagia, but began to suspect the real trouble.

Next morning I was again hurriedly summoned, and now found her in an extreme condition. However, she still was not suffering to a marked degree, the extremeness of her condition being shown by evidences of shock. Fast and weak radial pulse, mild, cold, perspiration, thirst, nausea, and giddiness.

There was as yet no rigidity, distension, and very little tenderness. Vaginal flow still present.

Within another hour rupture occurred suddenly, as was evidenced by the rapid appearance of severe shock, even bordering on collapse. She now began to suffer some localized pain, and there began to develop a slight rigidity and distension in right lower quadrant. A surgeon was summoned, and patient transferred on automobile thirty miles to a hospital. She complained very little of pain on the way, but was almost collapsed at the end of the journey. The operation was practically identical with that of my first case, likewise the findings. Good recovery.

The most surprising feature of this case was the lack of the excruciating pain which the first case suffered. It is also of interest that both these cases, and all others of local occurrence, so far as I can learn, are above the average in health and strength, and usually under 30 years of age.

The more money The Journal of the Medical Association of Georgia makes out of its advertisements the less it costs the State Association to run the paper. This means that every member of the State Association has an interest in the advertising columns. If one business firm advertises and another does not, patronize the one that does. It is money

Many a severe cold ends in tuberculosis?

HERNIA.

A. D. Little, M.D., Thomasville, Ga.

Hernia, in a broad sense, includes protrusions of all organs from their cavities, but when we hear the word hernia, we naturally think of the abdominal hernias, as they are so much more frequent than other hernias as to almost monopolize the term.

When we consider the anatomy of the abdominal wall with its numerous and necessary openings through it and the amount of pressure that it is called upon to withstand, it excites our admiration, and we wonder that hernias are not more frequent.

I will confine this paper to the discussion of Inguinal Hernias, which are without a doubt the most frequent variety of abdominal hernias.

In discussing this variety, we will further divide them into congenital and acquired.

All inguinal hernias are produced in the same manner, except that the internal ring is incomplete at birth, though the congenital is usually of such long standing that the peritoneal covering is difficult to differentiate from the other tissues, and is consequently more difficult to handle in an operation for cure. I have operated on hernias in old people when they had been ruptured for years, and would find practically the same condition as in the congenital hernias, as regards the peritoneal sac.

The acquired hernias vary in size from a pigeon egg to tumors the size of a cocoanut, and even larger, and the sac's contents vary greatly, as they may contain intestines, bladder, caecum with the appendix and in the femoral variety, in the women, the ovary. The congenital hernias usually contain intestines or an undescended testicle.

It is my idea that the best way to learn the anatomy of abdominal wall and the peritoneal sac, contents etcetera, involving a hernia, is to operate, and I believe the radical operation for the cure of inguinal hernia is a good test of a surgeon's ability to dissect, for his success depends largely on his ability to recognize and dissect tissues.

In attempting to describe the operation, I believe I can best give you the anatomy.

After the usual technic in abdominal surgery as to preparation, the operation is begun with or without a general anaesthetic;

frequently they are begun with local anaesthesia and the patient, much to the delight of the operator decides to take a general anaesthetic.

An incision about two and one-half inches is made, beginning near the pubis one and one-half to two inches above and parallel to puparts ligament. This goes through the skin, superficial fascia, and subcutaneous fat, which is rather abundant unless a truss has been long worn, in which case the skin is almost in contact with the fascia of the external oblique, which covers the inguinal and hernial canal. A grooved director is now passed from the pubis end of the canal, or through the externa ring up to the point of the normal internal ring, and this fascia split along the director.

We now find fibers of the cremaster muscle running across the hernial sac, and these should not be cut, but rather pushed downward and preserved. We have now exposed the peritoneal hernial sac, which we proceed to dissect, beginning preferably at the upper hernial opening. Now is the time when an operator's ability to dissect is shown up, and my advice, after many operations, is to take your time and if things do not separate like the book on surgery told you they would, don't be disappointed, but put a piece of gauze over your finger and with gentle pushing you will soon be able to see where you are, and your assistant holding the cord and veins, you will soon have the sac free. It should now be opened and the contents inspected; as I have said before, you may find only small intestines; you may find an inflamed appendix, which can be removed; you may find the bladder protruding into the sac, and you may find that the long use of a truss has produced adhesions of peritoneum and intestine, or more frequently omentum, in which case they should be separated. The sac is now emptied, in which case they should be separated. The sac is now emptied by forcing its contents into the abdomen; the sac is pulled down well, ligated, leaving the ligatures long after tying; sac is cut away, and the ends of sac ligatures passed through the internal oblique from within cut and tied between the internal oblique and external oblique.

Now comes the most important part of the operation, that is, closure of the hernial opening. We either do the Basini or modi-

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MEDICAL DEFENSE.

The Committee on Medical Defense shall consist of five members, of whom the Chairman of the Board of Councillors and the Secretary-Treasurer of the Association shall be members. The other members, one of whom shall act as Chairman of the Committee, shall be elected by the Council for a period of five years. Those elected at this meeting to serve one, three and five years, respectively.

It shall be the duty of the members of the Committee on Medical Defense, severally or collectively, to investigate and defend all damage suits against the Medical Association of Georgia, to investigate all claims of civil malpractice made against members; to take full charge of cases which, after investigation, they will have decided to be proper cases for defense; to defend such cases to the end and pay all costs of such defense; but they shall not pay, or obligate the

Medical Association of Georgia to pay any judgment rendered against any member upon the final determination of any such case. They shall be empowered to contract with such agents or attorneys as they may deem necessary, but shall always consult the defendant in employing attorneys.

The assistance for defense, as herein provided, shall be available only to members of the Medical Association of Georgia in good standing. A member in arrears with annual dues after February 1st shall not be entitled to defense as herein provided for any suit, the cause of action of which arose while said member was in arrears.

Any member or members of the Medical Association of Georgia threatened with suit for civil malpractice, who desires the assistance of the Committee on Medical Defense, shall, immediately that he becomes aware of the threat to sue, so notify the Secretary of the Association, or the General Attorney of the Association, in the instance there is not time to communicate with the Secretary. The Secretary or General Attorney, so notified, shall proceed immediately to investigate the circumstances reported, in the manner and after the procedure hereafter to be set out by the Committee on Medical Defense, securing for the consideration of the said Committee full data and statement of facts and circumstances surrounding the filing of the suit or suits for its consideration and permanent files. The member sued or threatened with suit, and under investigation by the Committee on Medical Defense, shall be consulted and have the full confidence of the Committee in all transactions connected with the investigation in question. The Committee on Medical Defense shall have the authority to require of a County Society or the President thereof, the appointment of a Committee of Investigation in any such case, and it may direct the said Committee so appointed to report to the Committee on Medical Defense and not to the Society from which it is appointed.

It is understood the Association will not undertake to defend suits brought as offsets for bills for services rendered, or where it is understood the plaintiff will not sue for alleged civil malpractice if suit is not brought for collection of the services rendered at the time the cause for action arose.

The Committee on Medical Defense may also at its discretion arrange to prosecute il-

legal practitioners and enforce the Medical Practice Act of this State.

The Secretary is empowered to appoint local Investigating Committees and shall report the names of the members of such Committees to the Chairman.

Letters of inquiry indicate that there is some misunderstanding concerning the lapses of this feature after February 1st of each year.

In the plainest terms possible it means that a member whose dues have not been received at headquarters by that date will not be protected in case suits occur as a result of work done after that date and before his dues are received.

Thus, if a member's dues were not received until February 15th and as a result of professional work done any time between February 1st and February 15th, he should be sued for damages he would not be protected, but if the work was done prior to February 1st or any time during the fiscal year following the receipt of his dues he would have protection.

The protection is automatically restored the moment dues are in the hands of the Association's Treasurer, and members are immediately notified by having their membership cards forwarded them.

If you do not receive your card promptly you should notify your county secretary, and request him to immediately remit your dues. **If you have your membership card you are protected; otherwise not.**

Continued from page 209

fied Basini. The difference is whether we leave the spermatic cord veins, etc., in original position, or make a new floor for them, and this is to be decided in each case after incision. The question always is, which we think will make the strongest and best closure.

The closure is made by uniting the conjoined tendon and Poupart's ligaments. We use a kangaroo tendon, prepared by Dr. Marcy, of Boston, Mass. I mention this because it is a tendon put up in oil, making it soft and pliable. This tendon is threaded in a Degarmo needle, or if you haven't this needle, just break the point off a large full curved needle and place mattress sutures through the conjoined tendon and overlap

on poupart's ligament. You can easily feel the femoral vessels and, of course, carefully avoid them. It is sometimes a nice question as to just how close to close around the cord, as a failure to make opening close enough will often cause a return of condition, while when too tight we are apt to have considerable trouble, as pain, congestion of veins, etc.

We next close the fascis of the external oblique with cronic catgut, and finally close skin with silkworm gut.

Patient is kept in bed with a spica bandage in place for at least two weeks, and I think three or even four weeks is not too long. If a patient leaves under three weeks, he does so at his own risk.

Editor Journal of Medical Association:

I would thank you to publish the following in the Journal:

"On the 15th day of December, 1914, Dr. C. W. Miller, of Atlanta, Ga., ex-secretary of the Eclectic Examining Board, was indicted by the grand jury of Fulton County for forgery in two cases, to wit: signing the names of the other four members of the Eclectic Board to a license issued to L. L. Lightner, of Ideal, Ga., and to a license issued to W. D. Branch, of Baxley, Ga. Dr. Miller made a plea of guilty to a misdemeanor on November 4, 1916, in the court of Judge B. H. Hill of Fulton County, and was fined \$100 in each case, including the cost. I have in my possession the records of the Eclectic Examining Board. I have the names of about thirty doctors who have licenses issued to them and dated May 3, 1913, whose names are not on the Eclectic records. There is no question about these thirty men having fraudulent licenses and the State Board of Medical Examiners is making every effort to have these fraudulent licenses annulled. Someone is still selling these fraudulent licenses, because Willis M. Goodson, of Blaine, Ga., and Dewart B. Tallant, of Holcomb, Ga., who graduated at the Georgia College of Eclectic Medicine and Surgery in the spring of 1916 have each a license dated June 6, 1913, and issued by the Eclectic Board, recorded with the clerk of the superior court at Jasper."

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"THE REMOVAL OF FOREIGN BODIES FROM THE GLOBE BY THE ELECTRO MAGNET."*

F. Phinizy Calhoun, A.B., M.D., F.A.C.S.,
Atlanta, Georgia.

The fact that our state is fast becoming a manufacturing or railroad center with thousands of mechanics constantly using their tools, makes the subject under discussion an important one, for in my experience, eye injuries are becoming more frequent. It, however, is not to be understood that this type of laborer is the only one subject to eye injuries, for the carpenter, blacksmith and even the field hand with his hoe is in like manner liable to an eye injury from a flying fragment of iron or steel.

Of all the foreign materials which accidentally penetrate the globe, it has been estimated that 75 per cent is either steel or iron. Copper, brass, stone, wood and glass

make up the remaining percentage, and if this class of material rests in the globe and can be localized, they are removed with varying degrees of success.

Fragments of metal to be removed by means of the electro-magnet must necessarily be magnetic, and the major proportion of iron splinters are magnetizable. Steel alloys, especially nickel and manganese, have been used to such a large extent in certain industries that we must not forget that they have very different properties from ordinary steel, and the possibility of iron splinters penetrating the eye being non-magnetizable should be recognized.

Magnetizable foreign bodies which penetrate the globe may be classified accordingly, i. e., those which lie in the anterior segment, and those which lie in the posterior segment of the globe, that is, behind the lens. This classification is important for the prognosis in preserving the sight if not the eye very much depends upon the location of the body. For instance, a sliver of steel perforates the cornea and lodges on the anterior surface of the iris; it offers a much easier chance of removal than one which penetrates the lens

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and rests on the retina of the posterior part of the globe. Again the chances of infection of foreign bodies in the anterior segment are decidedly less than those of the posterior segment. The anterior portion of the globe is more tolerant to foreign substances and the immediate bad effect is not as severe as when the posterior segment is involved, for really, according to the classification, where the posterior portion suffers, a double injury has taken place, and if the body is allowed to remain, the sight not only becomes impaired, but a sympathetic ophthalmia may develop in the opposite eye.

The question then arises how long can an eye tolerate a foreign body, such as a piece of steel or iron. This depends upon the conditions, chiefly the location, the size and the sterility. Two cases are mentioned in the literature, one by Kuapp, where a piece of steel penetrated the eye and lodged in the lens and was removed a few hours after the accident, yet the eye was lost from a panophthalmitis. On the other hand, Doyne mentioned a case of foreign body in the lens 30 years and for 28 years he could shoot with that eye. Needless to say the posterior segment of the eye would not have tolerated the foreign body, even in a sterile state for so great a time, as degeneration of the globe, with its bad effects, would have taken place early. There are cases on record where minute pieces of steel have remained in the posterior portion of the eye many years before causing trouble.

In the management of magnetizable bodies of the globe two important facts should be borne in mind:

First, immediate treatment; that is, the body should be removed as soon as possible, for in this way many eyes can be saved from sepsis, and the body is more easily removed then than after it has become imbedded in blood clots or new-formed tissue.

Second, the localization of the body; if it is possible, the surgeon's eye can best and easiest localize the body if it is in the anterior segment, or with the ophthalmoscope if in the posterior segment unless the lens has been penetrated or the vitreous chamber filled with blood. If this method fails or is unsatisfactory, then an accurate localization of the body on paper should be made by an expert radiologist. In any event, an x-ray picture, showing a foreign body, is positive evidence of its presence, yet a negative picture

does not positively mean an absence, as the fragment may be too small to show on the plate. This plotting is necessary, for it allows one to plan his attack with the magnet, otherwise an eye may be lost or seriously impaired by the injudicious use of the magnet. For instance, a spicule of iron has penetrated the cornea, perforating the iris and lens periphery and landed somewhere in the posterior part of the globe out of range of vision or unobserved. Not knowing the location of the body, the magnet would more than likely draw the body against, or even through the lens, producing a cataract, which could have been easily avoided.

I am mindful of the fact that some surgeons, notably Haab, the inventor of the giant magnet, do not localize their cases, but attempt all deep extractions by drawing them into the anterior chamber through the pupil after bringing the body through the suspensory ligament of the lens. This is the method which is most frequently and successfully practiced by all operators after a localization, but in the instance of Haab, we must not forget that a master hand is at work, and as I have witnessed, it is short of legerdemain. X-ray localization is easy after it is understood, and it gives the surgeon a correct interpretation of the position and usually the size of the body, all of which is for the best interest of the patient.

As to the management of the case with the magnet, no description can be given to apply to all cases, for no two are alike. We have at our command the portable hand magnet and the giant magnet of Haab. If the corneal wound is a very recent one, and the body can be seen in the anterior segment of the globe, an easy and successful extraction can be made with the hand magnet, ultimately giving the patient good vision. If the wound is an old one and the foreign body similarly situated, an incision is made into the cornea, through which the body is extracted. Should the iris prolapse, which can not successfully be replaced, an iridectomy should be done. In the injuries where the body is in the posterior segment of the globe, the giant magnet is used after a localization is made with the ophthalmoscope or x-ray, and by preference, it should be pulled into the anterior chamber after the body has passed through the suspensory ligament and pupil, then with the hand magnet it is removed as before described. When the body has

penetrated the lens during its entrance, there is no need to save this structure unless there be a minute peripheral opacity, and a direct pull can be made straight through the pupil. In cases of several weeks' duration, the body will have become more or less firmly imbedded, requiring greater expertness and often considerable patience to dislodge it. The larger the body in these imbedded cases, the easier dislodged. Where the body lies near the surface and the magnet is allowed to pass over it, there is always a certain degree of pain and tenderness, and when in the ciliary region it is exquisite. This localization of tenderness is valuable, if for any reason a skiogram can not be made, for it locates the body.

It is not advisable to remove a foreign body through a scleral incision except when failure or accident attends the anterior route. It should be borne in mind as a useful, if not necessary, route at times, and brilliant results have been obtained. We are merely inviting unnecessary chances of infection and intra-ocular accidents such as hemorrhages or subsequent retinal detachments; on the contrary, injury to a clear lens and the ciliary region are accidents which may be encountered by the removal through the anterior route.

For any of you who have never seen or done a magnet extraction, it is not the simple device of placing the patient's eye before the giant magnet, turning on the current and seeing the fragment jump out on the point of the magnet. Unfortunately, it is not so easy, but it requires accurate approximation of the eye to the tip of the magnet and proper rotation of the eye in different directions to receive the magnetic rays. One can surely realize the danger which may come to an eye which contains a piece of steel if unjudiciously placed before a magnet capable of attracting and holding a body weighing many ounces.

As for results, little can be learned from statistics on account of the many facts to be taken into consideration, such as the length of time seen after the accident, the location and size of the body, whether it is septic or sterile and above all the capability of the operator.

Many eyes are saved, although sightless, useful vision given in the majority of cases, and I should judge that an enucleation is required in 25 per cent of all cases.

To illustrate some of the points which I have mentioned, I have selected a few cases, giving only the important facts of their history.

Case 1, A. H., age 17, apprentice Southern Railway shops, was struck in left eye while riveting. Seen a few hours after injury. Eye showed lacerated wound of the sclera about 2 m.m. long in lower temporal quadrant, 6 m.m. from the limbus. The pupil was irregularly dilated, hyphaemia, the fundus seen with difficulty on account of hemorrhage in the vitreous. Localization by Dr. Derr shows body 3x2 m.m. and 11 m.m. behind cornea, 7 m.m. below horizontal and 5 m.m. to the temporal side of the vertical plane. The eye was cocaineized, and with the giant magnet it was drawn into the anterior chamber and extracted with the hand magnet through a corneal incision above. When last seen a few weeks after the operation, vision was 20-70, with prospect of normal sight.

Case 2, W. M., age 5, was standing behind his grandfather, who was chopping in the garden, when a fragment of the hoe struck the left eye. Seen three days later and the eye showed a small penetrating wound of the cornea 4 m.m. below center or pupil. The iris was muddy, there was hypopyon and the pupil slightly contracted by an exudate; a small dark body less than the size of a pinhead was seen imbedded in the iris. The child was anesthetized and with the hand magnet applied at the point of entrance, the iris seemed to bulge forward. Repeated efforts were made to dislodge the body, but it was firmly imbedded. A horizontal corneal incision was made with a thin cataract knife, and the tip of the hand magnet applied to the wound; the iris and foreign body presented and it was removed after making a small iridectomy. The child was kept in a hospital, under treatment, consisting of hot bathing and atropine, for about two weeks, and when dismissed had practically the same vision as the opposite eye. If the case had been seen earlier, probably the body could have been extracted without iridectomy, as in two days it had become firmly imbedded into the iris by an inflammatory exudate.

Case 3, W. S., age 19, automobile mechanic, was struck in right eye with a piece of steel while at work and immediately came to my office. The eye showed slight chemosis, and there was a 1 m.m. scleral laceration in the

lower temporal quadrant 6 m.m. from limbus. Vision was 20-70. After the pupil was dilated, a small shiny substance could be seen in the vitreous in the posterior part of the globe. Attempts were made to draw it forward with the giant magnet, but it did not apparently move. Some vitreous hemorrhage developed which obscured the position of the body. A localization was made by Dr. Derr and another attempt was made to move it without result, as shown by a second localization. The tools were examined and found to be magnetizable, but a part of the engine which was under repair was not attracted by the magnet. A final attempt was made to extract it by a scleral incision and a small sterile tip was introduced into the vitreous with no effect, proving conclusively that it was non-magnetic and probably came from the automobile engine. As the foreign body could not be removed, sutures were applied and the eye bandaged. Following this operation, the eye behaved beautifully, and it became clear in a few weeks. Four months later vision was 20-40, although it had been normal. As a sad climax to this history, the patient was instantly killed a few months later when his machine "turned turtle" in an automobile race in Nashville, Tenn.

Other injuries could be cited where the eyes were more seriously injured and although the body was extracted, sight was not preserved on account of the development of a cataract or certain other intra-ocular changes. The usual proportion of enucleations were made when eyes were lost through infection, etc.

In conclusion, I might add these few deductions for your consideration:

1. The patient should be given immediate attention, for the delay of a few hours renders the extraction of the foreign body more difficult and increases the chances of infection.
2. An x-ray localization is essential in all cases of ocular injury from a foreign body.
3. The anterior route is the one to be preferred in the extraction, although at times the scleral incision is necessary, and only as a last resort should the tip of the magnet be introduced into the vitreous chamber.

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DISCUSSION ON THE PAPER OF DR. CALHOUN.

Dr. E. E. Osborne, Savannah: I have never removed a foreign body with the giant magnet personally, but I have seen a good many cases in Philadelphia in which it was used. They were using two or three means of diagnosis there, one of which was the use of the sideroscope, which is a delicate magnetic needle arranged with a scale and telescope so that any deflection could be noticed. The other diagnostic means was by means of a pin and the magnet was applied. There they usually resort to the Sweet method of localization with the x-ray.

In so far as the removal of the foreign body is concerned, they usually use the giant magnet and draw the foreign body, if it is small, around the lens through the suspensory ligament and watch for the bulging in the iris at any point. Whenever that bulging was seen they rotated the eye in the direction in which the foreign body had engaged, with the expectation that it would come under the iris. They would immediately cut off the current as soon as the bulging was seen for fear of injuring the tissues of the iris. Of course, they made an incision in the cornea afterwards. I saw one case in which de Schweinitz operated after localization with the x-ray; he made an incision in the sclera and inserted a small hand magnet and drew the foreign body out. It is really wonderful what bodies you will find in the eye at times. You always suppose the foreign body is located within the orbit in most of the injuries of the eye.

A few weeks ago I saw a case in which the man, who was a wagon driver and used a long whip, was in the habit of cracking it and in so doing it hit him in the eye. He applied eye-drops and did not think much of it, but the eye began to swell, panophthalmitis set in, and on making an incision there was a portion of the whip that I saw three-eighths of an inch in extent that flew off the end of it and had penetrated the anterior chamber and lodged in the posterior.

Dr. J. M. Smith, Valdosta: There is one point Dr. Calhoun did not bring out in his paper which I think should be impressed upon the general practitioner and the laity, and I would like to have his opinion about it in closing, and that is this: the question frequently arises, when shall we enucleate an

injured eye in which there has been a penetrating wound such as he has described.

We know that outside of the injuries inflicted by steel and iron, perhaps gunshot wounds of the eye are the most common. They have been in my experience. I do not think you can remove a bullet by the magnet. The first thing in these cases is to get an x-ray and determine the locality of the foreign body. The question arises, shall we remove an eye which is irreparably lost? When shall we remove it on account of danger of sympathetic ophthalmia? I think that is an important point. I think that is the rule in all cases where the eyes are irreparably lost with a foreign body in the eye. The eye should be removed in such cases regardless whether the injury has brought about deformity or not. If it has penetrated the globe and has gone beyond the globe into the orbit, it is harmless, and the eye may remain without any danger of bringing on sympathetic ophthalmia.

I hope Dr. Calhoun will enlarge on that point in his closing remarks.

Dr. Cecil Stockard, Atlanta: While associated with Dr. Calhoun and during his absence from the city I saw an interesting case of a man working in a railroad shop. On the third of July he was struck in the eye with a foreign body. The next day being a holiday he celebrated. He did not go to bed that night. The following night he was awake all night. On the fifth of July, when he awoke the eye was red and painful. He consulted a local ophthalmologist and an attempt was made to remove the foreign body with a magnet, but failed, and the patient was sent on to Atlanta to Dr. Calhoun. I undertook to take care of the case during Dr. Calhoun's absence. I found that the foreign body had penetrated the cornea, went directly through the pupil and penetrated the lens. From the front you could see the opening in the cornea and a small black spot on the anterior surface of the lens. It was the eighth of July when I saw the case. After cocainizing the eye the magnet was applied at the point and the current turned on, and that quick (snapping the finger) the foreign body jumped and stuck to the posterior surface of the cornea. By moving the magnet the foreign body came out through the opening. There was no pain whatsoever. The man did not have traumatic cataract. This

foreign body was small, it being about three millimeters in length.

Dr. H. M. Lokey, Atlanta: With reference to the removal of foreign bodies, such as steel and magnetizable foreign bodies, the hand magnet is most invaluable because frequently by the use of the giant magnet you get more traction unless you have an adjustable rheostat.

A boy came to see me who had been cutting a small plate and part of it flew off and penetrated the eye at the limbus. I saw him that night and did not have an x-ray made. On examination I found a small perforation in the iris beneath where the foreign body went through the cornea. To determine whether I had a piece of steel or a piece of splinter in there, I decided I would use the magnet, and see if I got pain or a sense of movement of the iris by making traction on the foreign body. I placed the patient in position before the magnet and turned on the current. The current was stronger than I anticipated, and the foreign body was more easily removed than I expected, and that quick (snapping the finger) the foreign body came out through the opening, but with it came fully one-half of the upper portion of the iris, producing a coloboma. The iris was completely torn away. It came out with the foreign body. If I had used the hand magnet with more care I would have saved that fellow a considerable amount of embarrassment with enlarged pupil.

Dr. W. C. Lyle, Augusta: I am not going to discuss this paper of Dr. Calhoun's except to call attention to the point of danger that is liable to occur in consequence of foreign bodies penetrating the eye. It is not known by every man who is not engaged in eye work that a foreign body touching the lens or doing the slightest damage to the lens is very apt to produce cataract. I mention this from the fact that only a comparatively short time ago an accident occurred which I felt was due largely to the ignorance of the man who first saw the case, and I feel perhaps that there may be others who may be in the same position.

Taking this sketch of the eye-ball (illustrating on blackboard), not infrequently foreign bodies penetrate the cornea, and these foreign bodies may consist of particles of glass which are hard to discern, and you may find a small spicule of glass in the cornea,

and it may be an easy matter to take it out or you may overlook it. Anyway, in the cornea there may be, as a result of an explosion or a broken window, a little splinter of glass penetrating the cornea. The patient goes to his physician with something in the eye. The patient may not be so situated that he can reach an oculist. The physician finds that here is some little projection here; he does not know what it is, and it is the custom of the average practitioner, I find, to wrap a piece of cotton around a toothpick or something of that kind and proceed to wipe this off. In this case it was a rather long sharp-pointed piece of glass. As soon as that physician took a pledget of cotton and wrapped it upon a toothpick and started to wipe it off he found that this sharp-pointed piece of glass was in contact with the lens, began rubbing, and you can see what happened. As soon as he touched the lens he developed a traumatic cataract and this man virtually lost all the sight of the eye. If it had been pulled out with a pair of forceps, or had it been a piece of steel or iron, and the magnet applied, it could have been easily taken out, but by using the ordinary process of wrapping a piece of cotton around a toothpick and rubbing, the lens was damaged irreparably.

Dr. Calhoun (closing): Since writing this paper I have a case under my observation where a little boy found a dynamite cap on a railroad track and in tearing off the cap it exploded and a foreign body entered the eye. I was absolutely sure I could see the foreign body. I thought it was there. There was injury in that location, and I thought positively I could see it. I was sure it was not magnetizable, and, in fact, I put the magnet over the entrance of the wound and there was no response. I should have had an x-ray localization first. The point I want to bring out is that at the time of the operation the next day I made an incision and with a pair of forceps I went right in there to remove the foreign body, and much to my surprise, as soon as the aqueous escaped the foreign body disappeared, and I bandaged the eye and awaited results, and had an x-ray taken. What I thought was a foreign body was a piece of pigment, and the small fragment that penetrated the eye was one millimeter by one and one-half millimeters, so you can understand how small it was, and it was situated in the posterior surface of the

globe. If I had localized the foreign body and had not been so absolutely sure what I saw was the foreign body, I would have saved the patient an operation, although he was a poor man, and I would have saved the expense of the x-ray photographs or plates. A point I wish to make is that all cases should be skiagraphed, because we are never sure what is on the inside of the eye. That point also illustrates and answers Dr. Smith's question as to what will we do if we can not remove the foreign body? In this particular case the boy was 5 years of age. He is of fairly good size, yet the x-ray shows that the foreign body is in the globe, and still the boy is improving and he is getting better. I believe we can say safely that unless the foreign body is in the sclera, some day that boy will lose the eye and have sympathetic inflammation in the other eye. But it hurts my conscience to advise the removal of the eye while it is clearing. The sight is improving, although it is of a suspicious character, and should be regarded so for many years to come. However, the parents fully understand the possibilities of what may take place, and as soon as they notice any undue redness or inflammation about the eye the boy is to return at once to have it attended to.

In reference to another question asked by Dr. Smith, if a foreign body penetrates the globe and lodges in the organ, unless there is active inflammation about the eye, it is unnecessary to enucleate it. Foreign bodies of the orbit will not cause serious damage. I make it a practice to enucleate eyes when they are absolutely lost or when there is infection in the eye, and where there are symptoms of degeneration, such as minus tension where you know the eye will keep on shrinking. And certainly, when there is any indication of irritation in the opposite eye.

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Heavy eating, like heavy drinking, shortens life?

HYGIENE IN THE PROPHYLAXIS AND TREATMENT OF EYE DISEASES.*

By Dr. Cecil Stockard, Atlanta, Ga.

Not least important among the provisions of Hippocratic Oath is the duty of teaching the people how to care for their health so as to avoid disease. With the exception of the alimentary tract, there is hardly any field of medicine where hygiene is of so great importance, and its neglect fraught with such disastrous results, as in the care of the eyes. The duty of teaching hygiene and prophylaxis to the public falls most heavily on the general practitioner, and it is for his benefit, chiefly, that I wish to present an array of facts that may profitably be passed on to those whom it is his duty to instruct.

General Hygiene of the Eyes.

Whatever affects the body affects the eyes, so the first step in the care of the eyes is care of the general health. Auto-intoxication, gonorrhoea, syphilis, Bright's disease, diabetes, rheumatism and other constitutional conditions should be treated promptly to prevent their effects on the eyes. Convalescent patients should be allowed to use their eyes very little, if at all. No person should ever use the eyes without a sufficient light which illumines the page or other work, and does not shine directly or by reflection, on the eyes. This is best accomplished by having the light come from behind and on one side, preferably from the left. In reading, the print should be not smaller than 10-point or long-primer, the lines should be at least 1-10-inch apart, and not too long, as the ocular muscles are greatly tired by undue rotation of the eye-balls. The paper should not be glazed, yet should be of such quality as to take a clear impression of the type. Women and children, and less frequently men, acquire the habit of reading while lying down, or in other unnatural positions. Men, on the other hand, are the chief offenders in the matter of reading while riding in trains, street cars, etc. Both these habits should be outlawed and eradicated if possible, as the resultant muscular strain may be followed by a train of very troublesome symptoms.

Much has been said in recent years about

the effect of moving pictures on the eyes. It would be a waste of breath to advise against attending the movies, and, indeed, I believe they will in time become a very valuable adjunct to our educational system. However, certain rules may be laid down, which, if followed, will prevent most of the bad effects on the eyes which result from this form of amusement.

1. Never attend a moving picture theater where the ventilation is poor, light bad, or the films unusually blurred or flickering.

2. Sit as far from the screen as possible to secure a clear view of the picture.

3. Never go from one picture show to another without a considerable period of rest in between.

4. Leave the theater at once as soon as your eyes begin to feel tired or the lids burn.

5. If you wear glasses (other than for reading only) they should by all means be worn at the movies, even though the view is not quite as clear as it would be without them.

6. Use your influence to have a law passed requiring an interval of from two to five minutes between all films shown.

Cleanliness.

The greatest care should be taken to keep foreign substances out of the eyes. The eyes should never be wiped or rubbed with any but clean handkerchiefs or fingers. Towels, napkins, washcloths, etc., should never be used promiscuously, but each person should have his own individual articles. The roller-towel, which is used by every one in the school, store or shop, is to be particularly condemned.

A patient with gonorrhoea should be particularly warned about the danger of infecting his own and other people's eyes, and any handkerchiefs, towels, etc., that he uses would best be burned, or placed in a strong antiseptic solution. Particularly in gonorrheal ophthalmia, or any infectious eye condition, it is best to use pieces of an old sheet or pieces of absorbent cotton instead of handkerchiefs, etc., as these can easily be burned.

In treating many eye diseases the underlying systemic condition must receive attention, and in nearly all such conditions attention to the diet and bowels will assist greatly in bringing about a cure. This applies particularly to conditions due to auto-intoxication, and to those persistent recurring cor-

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neal ulcers and blepharitis of childhood. In these cases diet and cleanliness alone are worth more than any other treatment without these.

One who does a great deal of close work is particularly apt to suffer from asthenopia, or a weakness of some or all of the ocular muscles. While this condition occasionally occurs in persons whose general muscular system is well developed, as a rule it occurs in those who are not very well developed muscularly. Therefore, a certain amount of regular exercise is a great help in preventing and in curing these trying conditions.

The eyes of young infants should never be exposed to a bright light, nor should rattles or other objects be held close to their eyes, but always at a considerable distance, and, when they are old enough to attend kindergarten, these rules should still apply. All teaching of small children should be done by means of large objects, and pictures on the wall, and never by small pictures, sewing, plaiting straw, etc. And if the child shows any sign of eye strain, or inability to see clearly, an oculist should be consulted at once and glasses fitted, if needed. The wearing of glasses by small children often prevents more serious complications later in life, particularly crossed eyes.

The public should be taught the danger of using eye drops that were intended for some one else. Such drops frequently contain atropine, and their unadvised use is followed by a week or ten days of inability to do any form of close work. Also the use of atropine in glaucoma is followed by a severe aggravation of the symptoms; and on the other hand, eserine in iritis, etc., has a similar effect. None but an oculist can realize how common this practice is, especially among the lower classes of patients.

Care of Glasses.

Eye-glasses are in reality very delicately adjusted instruments of precision, and often one or both lenses will cause considerable annoyance and discomfort. Where it is possible, it is wise to have glasses straightened and adjusted occasionally by a first-class optician, and where this can not be done, the patient should be exceedingly careful not to bend the frames any more than will occur with ordinary wear and tear. The lenses should be just far enough from the face to avoid touching the lashes, the lower edge

slightly closer to the face than the upper, the centers of the lenses should be the same distance apart as the pupils, and if one eye is slightly higher than the other, the corresponding lens should also be elevated. In wiping lenses the edges should be firmly held by one hand while the other does the wiping. Never hold by the other lens or frame, as in this way the frame will surely be bent. A small amount of grease or dust on the lenses often causes annoyance, and for this, as well as for aesthetic reasons, the lenses should be kept clean. This is best accomplished by wiping the lenses as described above, with a soft clean cloth: as paper, chamois, silk or woolen goods are very apt to scratch. In laying down, the surface of the lenses should never come in contact with the table or other object, but they should be turned so as to rest the edge of the lens only, while support is given by the frame.

There is a great tendency on the part of many people to wear their glasses only a part of the time. The iron-clad rule in such cases is never to leave the glasses off without the consent of the oculist. Adherence to this rule will prevent much discomfort and strain.

Opticians.

While on the subject of glasses I would like to say a few words about opticians. The business of the optician is to make and sell glasses, just as the business of the druggist is to make and sell medicines, and the druggist is as well fitted to advise patients what drug to take as the optician is to prescribe lenses. The term "Refracting Optician" and "Optometrist" are analagous to "Prescribing Druggist." It is unnecessary to emphasize the danger of entrusting the eyes (one of the most delicate parts of the body) to the care of one who does not thoroughly understand this organ and its relation to the rest of the body. Just as the prescription druggist is the safest and cheapest in the long run, so with the prescription optician, and it is the duty of the physician to impress these facts on his patients.

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DISCUSSION ON THE PAPER OF DR. STOCKARD.

Dr. E. E. Osborne, Savannah: It seems to me that the time for prophylaxis in the cure of the eye should be begun in infancy. All

children are born far-sighted. Their vision is certainly not made for working at near point. How often do we see, even babies or children of tender age, made to look at print and small objects requiring the exercise of a great degree of accommodation which, in turn, implies excessive convergence, the excessive convergence implying increased muscular strain, thus squeezing the tender eyeball out of shape, causing refractive errors, there usually being a difference in the refraction of the two eyes.

Again, you take in the schools, there has been a lot of work done in this regard, and still they persist in putting the blackboards between windows, where it is almost impossible for the children to see the figures on them on account of the faulty light on the board. Again they persist in the schools in placing windows directly in front of the children's eyes, which is injurious to them.

In fitting glasses, of course, the children should be supervised in this regard, absolutely all ocular strain taken as soon as it develops, and I believe the oculist should not only refract the eye and prescribe lens, but I believe he should supervise the fitting of the glasses. I made what I think is a discovery in Savannah, and that is, no optician or so-called optometrist even measures the inter-pupillary distance; they have so little regard for the fitting of glasses properly. They put the frame up in front of the eye to see whether it fits or not. A man can not become that expert, because it may be all right in small errors of refraction, but as those errors increase you increase the strength of the sphere of the cylinder, and a very small displacement, even so much as one millimeter, will throw out the result, and I do not care how carefully the oculist refracts the eye, if he allows his work to be thrown out by the optician, it is not going to do the patient justice, nor is the oculist going to get credit for it.

Then, again, there is a certain spirit, not of rivalry, but of jealousy and envy, that exists on the part of the optician, and most of them really take pleasure in knocking out the work of the oculist. I know of one case that occurred a short while ago in which I prescribed a five degree cylinder. The optician by placing that cylinder three millimeters out really increased that cylinder to eight diopters instead of five, and, of course, the signs of nervous strain and irritation

continued, and really, unless the oculist either fixes the glasses himself, or his patient returns and measures himself the inter-pupillary distance and measures the frames, he can not get satisfactory results.

Dr. A. B. Mason, Waycross: I am sorry I did not hear all of the doctor's paper. There is one thing that should be brought before the profession more forcibly than it is, and that is this: there is a committee of the American Medical Association on the Conservation of Vision, with a manager for each state, under whom several lecturers appear before public audiences and talk along the lines of ocular hygiene and conservation of vision. I have found it a very hard matter, indeed, to get any co-operation at all from the profession in my part of the state.

Last month I wrote a good friend of mine in a neighboring city in which place there is no eye man and suggested that he arrange for a date for me to come and deliver a little talk on these lines. He wrote me, stating that the profession in his town were opposed to it; that it was nothing in the world but an advertising scheme. It is needless to say I did not go. If the profession will just stop and think that these talks are given for the benefit of the public, for the benefit of the school children, in the doctors' families and the patients' families, and for the benefit of themselves, in many instances, they would not be opposed to it. While it does necessarily bring a little publicity to the doctor who gives the talk, nevertheless I think it is very wrong to look upon it as an advertising scheme, and to take the position that the doctors in this certain town did.

We have been trying to educate the public along these lines just as the public has been educated along the lines of prophylaxis in tuberculosis. Suppose the profession had taken the same stand against pamphlets, lectures on tuberculosis and its prophylaxis, where would we be now. We would have more tuberculosis than we could take care of. The same thing is true of the campaign raised against hookworm disease, malaria and typhoid fever, and all those dreadful diseases we have conquered, and the victories that have been won under the name of preventive medicine are a credit to the profession. We are trying to do the same thing for vision that has been done for diseases such as I have mentioned, and unless we get

the co-operation of the doctors, unless they get up these meetings, and take some interest in them and invite men to come to deliver these lectures, instead of having the men to beg them to get audiences for them, we will not accomplish much in the state of Georgia. Other states are making great progress, but so far in this state only eleven or ten lectures have been given to audiences varying anywhere from 10 to 50. I have given two lectures in my home town, one of them before a mixed crowd, and one before some ladies organized as a public health league during the baby contest last month, and I believe I did some good. If the doctors would co-operate with us, I am sure we would accomplish a great deal.

Dr. J. Lawton Hiers, Savannah: I was especially anxious to hear the first paper on the morning program and the discussion on it.

Referring to Dr. Stockard's paper, we realize from its title that it is a broad subject and covers a very broad field, and I expected him to say something on the proper care of the eyes of the newborn. I really think that considerable more should be done in that regard in the care of the eyes of the newborn. I also think—and we have with us today one of our prominent members of the legislature—that something should be done along the line of medical inspection of schools with reference to the eyes, ears, nose and throat. My observation along that line has been that many a child will have an incipient case of diphtheria that is sitting alongside of a healthy child and other contagious diseases before anything is known of it. In other cases there are children apparently very stupid, but mentally deficient, when it is due only to imperfect vision. I hope that our member of the legislature (Dr. Allen) will look into this subject.

Regarding to what Dr. Stockard said with reference to moving pictures, I want to say I have had some happy results in the use of Crook's glasses. There is a tinted glass invented by the celebrated English scientist, Crook, who, I think, was the discoverer of Crook's tube, if I am not mistaken. He has discovered a tinted lens which will eliminate all irritating rays of light; it cuts out two shades of light tint; it cuts out 2 per cent of the light and darker shades, 14 or 16 per cent.

I have had patients come to me complaining of the effect of moving pictures and have

fitted them with the Crook's lens and in some cases I gave them blank lens, but it has been decidedly beneficial and has given them a wonderful amount of relief.

Dr. Neal Kitchens, Bullochsville: Since the movies have been mentioned in this discussion, I would like to call the attention of the profession to a case I had recently to see if any of you have ever tried it and know anything about it. Inasmuch as one swallow does not make a summer, there may not be much to it. I had a case of insomnia following concussion of the spine produced by a railroad accident, and I found out that a good moving picture show after supper acted as a powerful hypnotic. I only gave treatment for six weeks. The patient lived in the woods, and after coming to the city has had only one relapse. I had her brought to town, she was taken to the movies, and the first night after seeing the movies she slept eight hours for the first time in two weeks. Let us not condemn the movies if they will relieve us of insomnia.

Dr. M. M. Stapler, Macon: I want to add a word or two with reference to the conservation of vision. We have a blind asylum in Macon; I have been trying to get statistics, but have not been able to do so. We know that if we could prevent these conditions, we would save a certain percentage of the blind children in Macon. I feel that practitioners are a little careless, neglectful or indifferent with reference to ophthalmia neonatorum, and I want to say that we should try to protect these children from blindness as far as we can do so with the means at our command, and when children are born we should drop 2 per cent nitrate of silver into their eyes.

Dr. Stockard (closing): With reference to the remarks made by Dr. Osborne of getting into trouble, that is the fault of the optician, and in Atlanta we do not have that much difficulty. We have several opticians who are very particular to get the glasses well fitted. I think if you will insist upon the glasses being fitted properly before you accept them, or send them back, even though it be a dozen times, and tell the optician to make the correction, he will do so.

Dr. Mason spoke of the Committee on Conservation of Vision of the American Medical Association which really has done a wonderful amount of good. The chairman of that committee in the state of Georgia is Dr. R. P.

Cox, and if you will take up the matter with him or keep in communication with him he will put himself in touch with somebody who will deliver these lectures.

I am glad that Dr. Stapler mentioned the matter which I in some way overlooked, namely, the Crede method for the prevention of ophthalmia neonatorum. That should have been included in my paper.

Dr. Kitchens' cases of hypnosis caused by movies is a simple explanation. The ordinary method of inducing hypnosis is to look at some fixed point; usually that point is above the eye, looking slightly upward will tire the ocular muscles and the levator labii superioris. In looking at the movies the eye becomes fixed on a comparatively small area, and that causes a strain of the ocular muscles, and a tiring of the muscles which naturally will cause sleeping.

THE TREATMENT OF CONCOMITANT SQUINT*

Albert B. Mason, M.D., Waycross.

Situated on the retina in direct line of vision is the most sensitive spot of the retina, the **macula lutea**. This is the posterior pole of the optic axis. The eye naturally directs rays of light proceeding from the object looked at on this spot. The eye is said to fix the object. Under normal conditions the two eyes fix the same object. Two images are formed, one on each **macula**. By accurate focusing the two images are fused into one and we get binocular single vision.

If, instead of both eyes fixing on the object looked at, one of them directs its line of vision elsewhere; that eye is said to deviate, or squint. This eye is known as the squinting, the other as the fixing eye. When the squinting eye looks in, the condition is known as convergent squint; when it looks out, as divergent squint. When the squinting eye follows the fixing eye in every direction and keeps the same degree of deviation in all positions, we speak on the condition as concomitant squint. This is in contradistinction to paralytic squint, in which condition the squinting eye does not follow the fixing eye in the direction of action of the paralyzed muscle or muscles.

The etiology of concomitant squint is an unsettled question. Donder's theory that far-sightedness is the cause of convergent squint, and near-sightedness is the cause of divergent squint; Worth's theory of faulty development, or absence, of the fusion faculty; and Valk's theory that muscular weakness is the primary cause of every case of squint, are the three most universally accepted. It is not my purpose, however, to enter into a discussion of the cause of squint.

The treatment of squint has for its object the securing of perfect parallelism and binocular single vision. That all cases do not terminate in this happy manner is unfortunately true. We are taught in our text-books to first try non-operative treatment, which consists in correcting with glasses what refractive errors are present; exercising the squinting eye by occluding the fixing eye for an hour or so several times a day, or by instilling atropine in the fixing eye once a day; training the fusion sense and exercising the muscles. If these measures do not overcome the deviation in from six months to a year, we are told to operate. The dictum "Operate only when all other means fail" is often the cause, not only of wasted time, effort and money, but of vision in the squinting eye being markedly diminished.

The younger the patient the more we can expect from non-operative treatment. My youngest case was 2 years old. The instillation of atropine in the fixing eye once a day, on and off for a period of five months, resulted in a cure. Another case, that of a boy 5 years old, remains the same today that it was in June, 1914, and he has been wearing a full correction of his far-sightedness all the time, and atropine and occlusion have been used faithfully. The squinting eye is amblyopic and seemingly unimproved, very probably congenital. Another boy, who was 7½ years old when I gave him a full correction of his far-sightedness and used atropine in his fixing eye for three months, has straight eyes. Vision in the squinting eye has improved from 20-200 to 20-50 in two years' time. In this case I gave glasses and used atropine to satisfy the father, who wanted to try everything before an operation. All of these cases were of convergent squint, and I mention them to show that every case is a separate problem and no fixed rule can be given to follow; neither can results be prophesied. Non-operative treatment is so uncer-

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tain, that the more I see of these cases the more am I inclined to the belief that all of them should be operated on after six months' use of glasses and other measures. The old idea of waiting until puberty, in order that the muscles will have developed more, is, in my opinion, wrong. If amblyopia of any kind exists in the squinting eye and vision is not improved in six months' time, there is no further chance for the squint to be improved without operation. If amblyopia ex anopsia exists in the squinting eye, and only the vision is improved after six months' time, the case is one for operation, and if vision is not improved, still further vision will be lost by postponing surgical treatment. Then, too, it is sometimes possible to develop the fusion sense in cases operated upon after the sixth year. Todd (*Ophthalmic Record*, December, 1914,) reports the case of a woman 41 years old, who developed binocular single vision after an operation correcting a convergent squint of 35 degrees. Divergent squint is first, last and always operative.

Summarizing, the indications for surgical treatment are: (1) The failure of non-operative measures to cure in six months' time, in patients under 6; (2) vision in the squinting eye, but not the squint, being improved by glasses, in patients over 6; (3) the failure of either existing poor vision in the squinting eye or the squint being improved, in patients over 6; (4) vision in the squinting eye being normal, or nearly so, in patients over 6; (5) all cases of divergent squint.

Of the operations for squint the one best known is tenotomy. However, the complete severing of an ocular muscle has given away to more exact and better procedures, for we found that frequently, sometimes after several years, a squint of the opposite kind followed the operation, or that the muscle reattached itself to the eye ball in a different plane and caused a deviation in that plane. While attempting a tendon lengthening operation on a girl 13 I accidentally severed the tendon, and the girl developed a hyperphoria of about 3 degrees.

The limited tenotomy, or tendon lengthening operation, as described by Todd in 1907, and more recently by Harmon in 1913, has taken the place of the complete tenotomy. Without going into detail, this operation consists of making an incision from one border of the tendon to a point just beyond its cen-

ter, and a few m.m. away another incision from the other border past the center. If a greater effect is desired, three incisions are made, two from one border and the other midway between, all going past the center of the tendon. If the results are not perfect after three months, we may make a limited tenotomy on the corresponding muscle of the other eye, or shorten an antagonizing muscle by one of several methods, suture, advancement, tucking, etc.

Of the tendon shortening operation, the one that appeals to me more than any other is the tendon-tucking operation devised by Todd. In this operation, a tuck is taken in the tendon by a tendon tucker. A double catgut ligature is then passed through the center of both layers of the folded tendon and cut and tied so that two bundles of muscle fibres are produced. Silk sutures are placed in the tuck so that they pull against the catgut ligatures and carried from under the tendon into the episcleral tissue near the corneal margin. Here they are tied in a bow knot that allows exact regulation to be made after the patient is from under the anesthetic, if a general anesthetic has been used, or at any time during the next few days that it becomes necessary, after which hard knots are tied and the sutures allowed to remain for a period of ten days or two weeks.

Todd gives the advantages of this operation over shortening operations as

"1. Exactness. Careful adjustment of the position of the eye may be secured at the time of the operation when tying the silk sutures after the tuck has been taken. (In nearly all advancement operations the operator is obliged to estimate the amount of the effect desired and does not know until his operation is completed the exact amount of effect that has been produced.)

"2. Security. When the operation is completed the stitches will not cut along the fibres of the tendon because of the catgut ligatures, and they are not apt to cut in the sclera if carefully inserted.

"3. Ease. The operation is easier of performance because of the tucker. It is very difficult to make a tuck in a tendon, especially if much effort is to be produced, without the use of some instrument to simplify the procedure.

"4. Flexibility. A low degree of effect may be produced, or as high as 40 degrees corrected by this operation."

As in non-operative treatment no fixed rule can be followed, so also in operative cases we must study each case and operate only after we are satisfied that operative procedure decided upon is the proper one, be it a single limited tenotomy, a double limited tenotomy, a combination of limited tenotomy and tendon shortening or a tendon shortening operation alone.

It is possible to increase the effect of limited tenotomies by having the patient practice abduction, in case of convergent squint, and adduction in case of divergent; the forced turning of the eye outward, on the one hand, and inward, on the other, if commenced immediately after the operation, not only strengthens the antagonist to the tenotomized muscle, but permits the incisions in the tendon to gape more—both together increasing the effect of the operation slightly. I have had two of my patients practice abduction after limited tenotomy operations, beginning the day after the operation and keeping it up for several weeks. Both of these were cases requiring more than the one operation, but the effect of the abduction exercises was so gratifying to one of the young men that, although the ultimate result is not perfect, the squint is so hard to detect by casual observation, that further operative procedure has been refused by him.

The abduction exercise used is that described by Thorington in his work on prisms. The patient is told to completely cover the eye not operated upon and, while holding his head perfectly still, fix the index finger held level with the eye, the finger being made to describe part of a circle outward.

DISCUSSION ON THE PAPER OF DR. MASON.

Dr. E. E. Osborne, Savannah: I believe that operation should not be resorted to in a case of squint, especially concomitant squint, until absolutely every other procedure has been tried or exhausted. Whenever I think of this subject I am reminded very forcibly of a conversation I had with Dr. Reber, who is one of the greatest authorities in the United States on this line with reference to the ocular muscles. He stated that while riding on a street car with a colleague of his,

who is also a specialist in that line, he saw a young lady and remarked, "What a beautiful girl that would be if it were not for her eyes, one looking one way and the other the other," and his colleague said, "Don't say a word; I operated on that case about ten years ago."

You can not be sure as to the results you are going to get in these cases. You may be successful in several cases and you may have a bad muscle that you can not remedy, and you may mar the person for life. In children up to 7 years there is really not much excuse for the operation until all other procedures have been undertaken. To begin with children, they will not hold themselves still; they are uncontrollable. In certain children the eyes are in convergence, but as they get older there is a decided tendency for them to become divergent, and we frequently find cases for a limited time that will correct themselves. It is true, unless you take these cases under observation almost immediately they do develop amblyopia in one eye, but if you treat them, if you attempt to exercise the ocular muscles, if you attempt to develop the fusion faculty, there is no reason why the amblyopia should be progressive, and if it is, then it is certainly time enough to operate.

Take any case of squint. Donders years ago in his work of "Physiological Optics" attributed the condition to errors of refraction primarily. When the refractive condition of the two eyes was very marked, it meant, according to his dictum, two images in the brain. Now, the brain will not accept two images, and it throws out one image. That eye becomes amblyopic, that is, blind, without any impairment of the orbit itself. That theory held unquestionably for years until the work of Worth on that subject.

Dr. F. P. Calhoun, Atlanta: Nearly every eye surgeon has his method of treating crossed eyes, and it is a very good sign that there is no one method that is satisfactory or can be applied to all cases. As the essayist well said, you must consider every case a law unto itself in the treatment.

It has been my habit to follow more or less the method which I am about to describe in children up to the age of 7, namely, to first adjust glasses or to correct any abnormality which exists in the refraction of the eye, which can be done under homatropin or

atropin dilatation. Having corrected the error that exists in each eye, then an effort should be made to restore such vision as possible after the method described by Dr. Mason. I think the principal reason we do not get the results that we want to get is because the patients are not intelligent, or the parents are not intelligent rather, or they can not go into detail as to the causes of the squint for the benefit of the surgeon. If the parents are told the object in treating these cases up to the age of 7 is to restore sight in the eye which has become blind as a result of nourse; if we let the parents understand that in treatment a patch should be put over the good eye or blind it with atropine, in a large number of cases the sight would be greatly improved in the squinting or crossed eye. If, after a reasonable time, say a year or two years or longer, up to the age of 7 or 8, when fusion development has occurred—if, after that time, we have made no progress in the straightening of the eye or improvement of sight in the eye that is crossed, it is time to consider operation. I do not like to operate under the age of 7, because it is necessary to give an anesthetic in such cases and an operation is an error of judgment on the part of the operator at that time, and he must know how much of a result he has if he has advancement, and when a patient is under an anesthetic it is only a matter of guesswork. I prefer in my operative cases to wait until I can do that operation under local anesthesia. I do operate on cases at times where no anesthetic is given, but I may say we are forced to do so. The operation of choice in my hands is not advancement, but a resection of the strong muscle with more or less tenotomy applied to the weak or poor muscles.

Dr. H. M. Lokey, Atlanta: Referring to complete tenotomy in some of these cases one is going to get a slipping back in the tendon and detachment of the tendon or muscle to the posterior segment of the globe, and you lose the power of the muscle in rotation of the globe. That occurs in some cases. In these cases of over-correction a great many men seem to be unnecessarily disheartened by them. I recall one case in which there was over-correction. By making the same operation to correct that over-correction that would have been made to correct the deviation, I brought the muscle forward and fas-

tened it to the globe and got correction. I corrected the over-correction.

In another case, a man, 40 years of age, was operated on for convergent squint when a boy. The globe, a few years after that, began to rotate out. When I saw him I found the internal rectus was attached to the globe back of the median line of the sphere. By attaching both muscles, by dissecting up the conjunctiva and bringing the end of the muscle and attaching it at the limbus, I got full correction of the deviation and was able to rotate the globe from one side to the other, whereas previously there was strict convergence. Where you get over-correction you can make the same operation to rectify the over-correction that you would to correct the deviation.

Dr. J. Lawton Hiers, Savannah: This is a much more important subject than I think the general profession realizes, because I have seen a great many people blind in one eye as the result of neglect. If they had been given proper attention in early childhood the defective eye would have been saved useful vision.

Like others who have preceded me, I am in the habit of trying to avoid operation in early childhood. My method has been to use atropine to give the child full correction in the defective eye. I have in several cases used ground glasses, instead of a mydriatic applied to the good eye. I have used a ground glass for the good eye to cover it completely, preventing the child from using the good eye, and instructing it about the importance of keeping the glasses on. In some cases it has worked nicely. I have not seen any one else who uses this ground glass, but it is a good idea, and I have used it in four or five cases.

In reference to the operation, many operations have been recommended and used, all of which have been employed to more or less advantage, but in my operative work, generally speaking, I have given attention to the weak muscle. I have been able to graduate the muscles in the tucking of them, then doing complete or partial tenotomy of the strong muscle.

I wish to thank Dr. Mason for his excellent paper, and especially for bringing this subject before us.

Dr. T. E. Mitchell, Columbus: In practically all cases of constant monocular comitant squint, the vision in the non-fixing

eye is greatly impaired, the amblyopia being due, for the most part, to some pathological condition of the eye itself, or to a continued involuntary suppression of the false image to prevent a troublesome diplopia.

The visual activity of an amblyopic eye, made so by an involuntary suppression of the false image, may be greatly improved by any condition of things that would make the vision of the squinting eye the better of the two, or by the restoration of binocular fixation.

If this be true, the ideal treatment of concomitant squint would aim not alone to correct the strabismus, but to bring about a condition of binocular fixation as well.

In the reported case of a young man who, after operation, had a minimum degree of deviation which was being eliminated by muscle exercise, I should like to ask the doctor whether or not, as orthophoria is approximated, there is also binocular fixation?

Dr. Mason (closing): Just a word or two as one of the speakers misunderstood me. I said that I always prescribe glasses and always try to correct any errors I can with them, and I did not mean to convey the impression that all cases ought to be operated as soon as we see them. The majority of these cases come to us too late in life, and I have not been able to do much, if anything, with glasses.

The principal message I wanted to bring before the Association for the benefit of the general practitioner and ourselves is this: If the general practitioner will send us these cases when they are young, say two or three years old, we can cure most of them without having to resort to any operation.

With reference to the remarks of the last speaker, I will say that I explained the method of ocular exercise, exercising one eye only, the eye that has been operated. When the patient covers the good eye and fixes the eye upon a finger or pencil it pulls that eye out. Partial tenotomy of the internal rectus not only strengthens the external rectus, but it also prevents the incision in the tenotomized muscle from closing up more than it will if that had not been done because fibrous tissue forms at the cut edge, and if the eyelid is allowed to rest two or three weeks until that has fully united, we will not get as much correction as if we kept it stretched. I find this man's vision in the squint eye was 20-50. He had never suffered from di-

plopia. He used first one eye, then the other, and had alternating squint. I corrected 8 m.m. of deviation with operation. At the first operation he had to remain away from his work three days, but he was satisfied with the results, and for that reason refused any other operation.

VINCENT'S FUSIFORM BACILLUS AND ITS PATHOLOGY.*

H. M. Lokey, M.D., and A. W. Gould, M.D.,
Atlanta, Ga.

In 1896 Vincent described in *Annales Pasteur* Institute a Fusiform Bacillus and a Spirochete which produced a membranous angina similar to that of diphtheria angina.

He claimed there were two kinds of this angina, one with superficial ulceration and light general symptoms, another form with deep ulceration and necrosis of the throat structures which was longer in its course and much more severe in its clinical manifestations.

The lighter form, he declared, was due to a pure culture of the bacillus; the severe form to a mixed infection of the bacillus and a spirillum along with other micro-organisms.

He gives a description of the bacillus as one having variable dimensions, the shorter from six to eight microns in length, the longer from ten to twelve microns. "The bacillus is thicker than Loeffler's Diphtheria Bacillus. It is very long and at times has filaments at the ends." He said: "It is at times lightly curved and tapering at the ends, being known by the grace of its form, but for the most part it is straight. Bacilli are generally isolated, but at other times are filamentous and piled up on one another in tangled, twisted masses. It never groups itself as the diphtheria bacillus does, and it presents many involution forms. It sometimes shows vacuoles which are very nearly round, but are unequally placed. When found associated with the spirillum in the second form the ulceration goes on to necrosis more or less severe; the spirillum does not stain as deeply as the bacillus. It does not take Grams stain, nor is it acid fast.

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Vincent said the organism was not cultivatable; this was afterwards disproved. He likened the spirillum to the spirochete refringens, and was encountered equally in the mouths of healthy subjects.

Efforts to infect animals have been mostly futile, although two or three investigators have succeeded in producing small abscesses in G. pigs.

The most work done in this country has been done by the Chicago Group of Bacteriologists at the Memorial Institute for the Study of Infectious Diseases; Tunnecliff, Rosenow, Dick, Barron, and others. Barron succeeded in getting the organism out of the blood stream a few days before death, of a case of noma with necrosed maxillary bones. Tunnecliff thought she proved that the spirillum and bacillus were the same organisms because different generations of a pure culture of the bacillus at times were spirilli. Rosenow and Tunnecliff isolated the organism from a case of pyaemia resulting from appendicitis caused by the fusiform bacillus. Dick cited three cases of meningitis and two lung infections, one with gangrene of the lung.

The organism, in my experience, has had to be cultured for the first generation in symbiosis with other organisms, anaerobically in succeeding generations it is possible to grow it in the presence of air. It grows best in media containing some of the natural albumens, acetic or hydrocele fluid, blood agar; Dr. Collins uses horse serum in broth.

In culturing for vaccines, I put it in glucose bouillon, anaerobically by different methods. I do this, because, in my opinion, the administration of repeated doses of vaccine made of culture media containing the animal proteids would be liable to produce anaphylaxis in the patient treated. Of course, that would not be true of solid media, where the growth is washed off with salt solution.

Dr. K. R. Collins translated the following Vincent's description of angina for me at the cost of a great deal of trouble and time:

"The lesion produced by the fusiform bacillus alone or associated with various organisms, such as the spirillum, is considered a process of necrosis. A section of the false membrane in a case of angina with a pure bacillus has been obtained. After fixing, the section was stained for 15 minutes in theonin-phenique, then treated for some seconds in acetic-glycerine, 1 to 200, washed care-

fully in water and mounted. The double-staining was obtained by a solution of eosin. In the preparation so stained one sees with a low power, three zones very distinct. The superficial constitutes the portion of necrosis of the false membrane. It is stained a very pale greenish blue, and is poor in cellular element. It is with difficulty that one sees here and there some nuclei with irregular outline, having taken very poorly the stain.

The Intermediary Zone. This section is contrasted with the preceding zone by the strong blue color. There is found here considerable masses of fusiform bacillus in bundles, forming a sort of compact line from which the prolongations spring, which penetrate in the depths of the mucous membrane.

The deeper section of the false membrane is very rich in cellular elements. The nuclei of the cells are altered and their edges are torn. They present no traces of multiplication. The nuclei disappear. The chromatin is separated and diffused in the cellular protoplasm. The preparation is formed by the method of Weigert. One sees in this zone an area of fibrous areolar structure, analogous to that of the false membrane of diphtheria. It is not without interest that while the causative organisms are different, the pathological symptoms are similar. Under sufficient power one sees that the bacilli are distributed in a manner very unequal throughout the depth of the false membrane. At the surface of this the bacilli are in abundance, but are mixed with a great many other organisms, in particular a coccus. It is in this subjacent strata that the proliferation of the bacilli is the most active. At this point they are found in bundles and heaps, so that it is sometimes difficult to find isolated organisms, but in the deeper or more profound part of the section they are less in number and more easily recognizable. In this region they are in a pure state, with the exception of a small nest of micro-cocci that accompany the fusiform bacillus.

In the double staining by Gram, there shows at the surface of the section the accompanying organism, colored violet by the side of the fusiform bacillus, which have taken the red color. In the deeper parts—that is, the level at which the bacilli proliferate actively—the bacilli appear alone, grouped and in chains in the middle of the tissue poorly colored and partially necrosed."

You note that Vincent says the pathology of the bacillus and the spirillum is the same, although the causative agents differ. This supports the proven statements of later workers that the bacillus and the spirillum are the same in different stages of development.

During the last few years this Vincent's Bacilli has often been noted in reports of the bacteriologist of the Georgia State Board of Health, Dr. Patillo, in sputum sent for examination for the tubercle bacillus. In fact, Dr. Patillo found it so frequently that he caused a special form to be made for convenience in reporting it.

So it would seem to be a cause of ulcerative conditions of the lungs as well as in the throat, producing symptoms which caused practitioners to suspect tuberculosis. He has noted this in only the last three or four years in sputum; so its spread is recent and local.

Dr. L. B. Clarke, of Atlanta, recently called the speaker in consultation on the case of a child, a boy of about 5 years, whom the physician preceding Dr. Clarke had pronounced as having an unresolved pneumonia. The white count showed a leukopenia, the red count, anemia. The child was pale and emaciated. Examination of chest revealed a large area of dullness of the right middle lobe. An attempt to aspirate with a rather short needle, 1½ inches long, failed to get pus.

So convinced were we, however, of the presence of pus, that Dr. Clarke decided to hand over the case to a surgeon for resection of the rib and drainage of the abscess, when nature solved the difficulty by the abscess spontaneously rupturing into the large bronchus and thus getting drainage. The recovery of the lad was uneventful. This pus showed the causative agent to be Vincent's bacillus; a culture was made with a vaccine in view, because of experience with that therapeutic method. But because of the afore-said uneventful recovery the vaccine was not used.

The same physician has since caused a vaccine to be made for a patient who has had repeated pneumonias, the cause of which, presumably, had been Vincent's bacillus. It is too soon to report results from this vaccine, but he hopes, on the basis of Dr. Lokey's experience and that of others, to establish a permanent immunity in the patient

against the pneumonia caused by this formidable infectious agent.

The writer knew little of the beneficial action of vaccine made from this bacillus. He noticed Dr. Lokey was having a rather unusual number made, but it was not his to question why, his only to make the requested vaccine.

The results of these vaccines Dr. Lokey has already given you.

As it has been established that the angina produced is severe, often endangering life, the lung infection causes a cachexia resembling consumption. Even meningitis may be caused by it. It is gratifying to know that immunity may be wrought about by vaccines.

DISCUSSION ON THE PAPER OF. DRS. LOKEY AND GOULD.

Dr. A. H. Bunce, Atlanta: There is one point that was not mentioned by any of the essayists, and that is this: We get not only infections of the throat and tonsils and lungs, but also of the teeth. I have occasion to make many examinations of specimens submitted to me by Dr. Hinman, of Atlanta, in which it can be shown very conclusively that there are infections around the gums and the teeth.

Another point not mentioned is this, that Dr. Wood, of Atlanta, has called our attention to the fact that in Crile's Clinic they have been very successful in using potassium chlorate in cases of Vincent's angina. It acts as a specific. Five grains of potassium chlorate, given twice daily, is followed by excellent results in many cases.

With reference to vaccines, in making cultures, I find they grow better in bouillon by washing with salt solution. You can get vaccines from bouillon cultures as well as from the other. These vaccines are indicated in the chronic cases which do not respond to local or systemic treatment.

Dr. Patillo, Atlanta: I have been making bacteriological examinations for the State Board of Health for a number of years, and two years ago I began to find Vincent's bacillus in many of the cases, although I was positive it was not present in Georgia to any considerable extent up to that time. Since that time this bacillus has been found in an increasing number of cases. I am fully convinced that there are few cases in which there

is ulceration which can be considered typical Vincent's angina. When there are ulcers or laceration along the bronchi it causes the patient to cough and there is so much distress that the patient is compelled to consult a physician and undergo a chest examination. I know that a good many of the very mild colds come from the Vincent's bacillus, and these may improve for a time, but on slight exposure they are worse again. It is recurrent with chills and may last the whole winter. One young man in our laboratory had Vincent's trouble for almost two years. He later developed tuberculosis. That, I think, is the danger of the cases that are not ulcerative in character and yet severe enough to call a physician's attention to them early. They are allowed to run on and pave the way for tuberculosis by lowering the resistance of the lung tissue. There is no doubt but we have a large number of cases of tuberculosis which were at first Vincent's bacillus infection. The bacilli seem to exist and persist indefinitely. I do not know whether we can get rid of these bacilli with vaccines or not. Internal medication does not seem to free the patient of the bacilli.

As to the way in which the bacillus is found, I have seen it myself in several bloody stools and in one case in a specimen of urine. I have also seen it in examinations of the nose and throat in people who have come in for examination for diphtheria bacilli. I find it in at least 80 per cent of the sputum examinations made for tubercle bacilli. It has increased in the past three months very rapidly. The principal danger is that it paves the way for tuberculosis in our state.

Dr. A. B. Mason, Waycross: I would like to ask if the same condition exists in other states, that is, an increase in the number of infections in Vincent's angina?

Dr. W. Frank Wells, Atlanta: I saw one case that had been diagnosed symptomatically as tuberculosis. The sputum was sent to Dr. Patillo, of the State Board of Health, was examined by him, and he reported Vincent's infection. Shortly after this Dr. Bunce told me about this specific treatment with chlorate of potash and I have used it. A patient came under my observation in whose case I used it. She had no throat, or mouth trouble, but had night sweats; she had lost 20 pounds in weight and had elevated temperature, and I gave her chlorate of potash

in 5-grain doses, three times a day, with a little calomel twice a week, and she got well very rapidly.

Dr. Gould (closing on his part): As to the spread of the infection in other states, I do not know. It has not been brought out as having been found in other states so far as I know. The question has been raised whether the spirillum of Vincent may not be the refrigerans or buccalis, but that is disproved by the fact that the spirillum is cultured in pure culture, and then cultured in another tube, and perhaps in the second tube you get the bacillus, so that it appears that the bacillus is formed from the spirillum. That is not uncommon in the evolution of organisms, as has been brought out by recent work bearing on the principle of mutation, where streptococci, by proper culture, under partial anaerobic conditions, have been converted into pneumococci and pneumococci have by proper culturing been changed into streptococci at the will of the bacteriologist working on them.

Dr. Lokey (closing): I have nothing to add except to express my thanks to Dr. Patillo for what he has said. It is in the chronic inflammatory form that we have the greatest difficulty in treating these cases, and in relying on constitutional treatment. These patients have a low vitality which renders them amenable to attacks of pneumonia or tuberculosis.

The more money The Journal of the Medical Association of Georgia makes out of its advertisements the less it costs the State Association to run the paper. This means that every member of the State Association has an interest in the advertising columns. If one business firm advertises and another does not, patronize the one that does. It is money in your pocket.

Children from sanitary homes advance more rapidly in school than those from dirty premises?

The United States Public Health Service believes that the common towel spreads trachoma, a disease of the eyes?

An advertisement in The Journal of the Medical Association of Georgia will bring results. Rates sent on request.

THE IMPORTANCE OF AN OCULAR EXAMINATION IN THE DIAGNOSIS OF CONSTITUTIONAL DISORDERS.*

By Dr. Elton S. Osborne, Savannah.

The examination of the eye is of little greater importance to the ophthalmologist than it is to the general physician. Nearly all organic affections show some signs in the various pathological conditions and abnormal reactions of the eye, and very often a careful observation of the eye will reveal the cause of some obscure affection that has baffled the diagnostic skill of the physician and will put him on the right track once more. This is a wide field and it would be impossible in the scope of this paper to show how important the eye is in the diagnosis of all constitutional disorders, but I would like to cite a few cases that were of particular interest to me, primarily because they consulted me for a condition that was entirely foreign to the eye and yet an ocular examination revealed the exciting cause in each instance.

Case No. 1. An elderly gentleman consulted me on account of deafness of thirty years' duration. There was a retracted drum membrane, about the usual condition that would be expected, but on examination of the eyes the pupils were found to be small and unevenly contracted; there was myosis and anisocoria, the left pupil measuring two millimeters and the right about two and a half. Now syphilis plays the principal role in anisocoria, and should be suspected in these cases. The diagnosis was assured on examination with the magnifying glass when a fine diffuse cloudiness of the cornea was seen, together with the remains of very fine vessels having a boom-like arrangement. The patient then recounted the history of a case of parenchymatous keratitis that occurred when he was four years of age; this had entirely escaped his memory until he was questioned concerning this eye condition. Two Wassermann examinations subsequently made were negative, but there can be no question of the diagnosis of syphilis in this case, although we are guided solely by eye symptoms.

Case No. 2. Boy of 10; parents thought

he had adenoids, as he had always been a "live wire" and now apparently lacked energy. Examination showed some adenoid tissue, but not sufficient to cause any obstructive symptoms. The eye examination showed a loss of the sympathetic reflex; this condition is frequently associated with dementia precox. As this form of dementia is due to a dysfunction of the sex gland, I immediately examined the genital region. A congenital phimosis was found and an exceedingly foul smelling exudate could be squeezed from under the foreskin. This condition had not been discovered by the parents or the family physician. The testicles were somewhat swollen and tender. This condition was particularly interesting, in view of the fact that recent investigations in dementia precox place the responsibility for this condition on a perverted internal secretion of the sex gland or, in other words, a qualitative alteration of the hormone of the gland. The diagnosis in this case was incipient dementia precox.

I warned the parents of the gravity of the situation, but they still believed that adenoids were primarily responsible for the condition and did practically nothing. Three weeks later the boy was again brought to my office with the history that several days before he had suddenly sprung out of his seat at school and commenced running around the room; on being carried home he disrobed himself and came out of the house staring fixedly at several members of the family. Shortly afterward, he went over to a neighbor's residence and asked several irrational questions. On examination, the boy appeared to be very much depressed and exhibited neurasthenic and hysterical symptoms.

Another interesting fact to remember is that Morax and various other investigators state that absence of the light reflex with preservation of the accommodation reflex may be present for from five to seven years without any other symptom and is alone sufficient to establish the diagnosis of syphilis.

When we think of the intimate connection of the iris with the sympathetic nervous system and with its antagonist, the so-called autonomic nervous system, the importance of the pupillary reaction can be appreciated, particularly as it is through the sympathetic and autonomic systems that the emotions find expression, and we know the emotions influence metabolism and every bodily action.

*Read at meeting of Medical Association of Georgia, Columbus, Ga., 1916.

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DYSMENORRHOEA AND ITS NASAL RELATIONS.*

W. Lapat, M.D., Otologist, Laryngologist,
Etc., Savannah Hospital.

That the treatment of functional Dysmenorrhoea has always been a "Bete Noir" to the physician must be admitted; it must, however, also be admitted that the cases called functional are becoming fewer and fewer in number as more careful and improved diagnostic methods have made evident minor organic changes in or around the pelvic organs which formerly had been inadvertently overlooked. We still, however, have a number of dysmenorrhoea in which we are unable to locate any cause within the pelvis and which withstands all forms of general treatment; these are the cases that have, in many instances been improved and cured by intranasal treatment.

In 1913, Mayer (1) reported 93 cases of dysmenorrhoea treated intranasally, of which 60% were cured and 75% improved. Having had the fortune to have worked in his clinic during the treatment of a great many of these cases I was able to follow them and can truthfully say that some of the results were remarkable.

Brettaner, (2) reported 63 cases, of which one-third were cured and one-half improved. The most noticeable thing about them was the fact that the best results were obtained in the cases which showed premenstrual headache.

That there exists a close relationship between the female sexual organs and the nose is now a well known fact; Seifert's conclusions, as stated by Mayer (1), are as follows:

(1) There are many indications pointing to a direct relationship between the nose and the sexual organs; the nerve path is unknown.

(2) General circulatory or mechanical conditions have a greater or lesser modifying influence on the nose as a result of sexual conditions and functions.

(3) Many pathological conditions of menstruation, etc., coexist with a general nasal reflex neurosis of nasal hypertrophy with its results.

(4) Uterine influence through nasal influence may be explained by suggestion, by cocaine euphoria, greater in certain individuals than in others, by a relief of nasal reflex neurosis, and through the restoration of the general health as a result of restored nasal respiration and relief of nasal congestion.

What can be the real connection between this functional dysmenorrhoea and its treatment of the nose. Is it of any significance that in both Mayer's and Brettaner's cases it was practically always the ones that gave premenstrual headache as an important symptom that were most benefited by the treatment.

We well know there is a form of headache which is a neurosis of intranasal origin, and which is relieved by application of cocaine to the mucus membrane of the septum and middle turbinate, which relief lasts two to three hours.

Sluder, (3) has reported the permanent cure of headache in several cases by the application of 2% silver to the mucus membrane of the middle turbinate in the vicinity of Meckel's Ganglion. Sobota, (4) in his atlas shows that the branches from this ganglion supplies the mucus membrane of the upper and superior part of the septum and the lower and middle turbinate.

The nerve path pointing to the direct relationship between the nose and the sexual organs being unknown is it not reasonable to say that a dysmenorrhoea cured by intranasal treatment is one which is caused reflexly by a neurosis of the branches of Meckel's Ganglion, and that on relieving or curing this neurosis you relieve or cure the dysmenorrhoea.

Very few of the men doing work on this subject have laid any special stress on the fact that a great many of the cases have headache in addition to the dysmenorrhoea. Mayer and Brettaner look upon headache as a premonitory symptom, and call it a premenstrual one.

Why should we say that a headache coming one week and often two weeks before a menstrual period is a premonitory symptom of that period? We might as well call any female headache a premonitory one, as it is bound to come sometimes between the periods.

Headache, caused by a neurosis of the branches of Meckel's Ganglion, is not con-

*Read at meeting of Medical Association of Georgia, Columbus, Ga., 1916.

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stant; there are periods of severe pain, periods of lesser pain, and many periods when there is an entire absence of pain, all depending more or less upon the general condition of the patient.

It seems to me easy enough to understand that a headache, due to a neurosis of nasal origin, could very easily cause a reflex pain in an organ like the uterus when it is actively functioning at each menstrual period, and that when this headache is relieved or cured the reflex pain is relieved or cured.

How, then, are we to explain those few cases which are improved or cured, but do not have any premonitory symptoms of headache? Those we could consider real functional dysmenorrhoeas and we could attribute their improvement to the suggestive influence of the treatment.

On investigation of the nasal passages it is almost impossible to decide whether you are, or are not, dealing with a case of nasal dysmenorrhoea. Flies, however, states that the mucus membranes over the anterior end of the middle turbinate, the anterior end of the lower turbinate and the part of the septum opposite the middle turbinate are engorged with blood and more sensitive than the rest of the mucus membrane. These spots he calls the genital spots.

Mayer says that those spots which show a special tumefaction are the cases which are most benefited by treatment.

Epinephrin has been of excellent aid to me in discovering any engorged spots; by its application to the nasal mucus membrane, the membrane immediately becomes blanched, excepting those spots which are engorged, and they stand out in bold relief above the rest of the membrane, taking a considerable longer time in blanching. A small spot on the septum of one or both sides opposite the anterior end of the middle turbinate are the only spots I have ever found especially engorged. Could this not be attributed to a higher irritability of the branches of Meekel's Ganglion supplying that part of the septum.

The method of treatment is simplicity itself. The mucus membrane of the anterior end of the middle turbinate and of that part of the septum opposite this turbinate is cocaineized and trichloroacetic acid is applied twice weekly for at least six applications. There is very little inconvenience felt, and the patient very readily submits to it. One

or two applications of the cantery may be used in place of the acid.

We must not expect to cure every case of dysmenorrhoea by this method. It would be foolhardy to try and cure a dysmenorrhoea caused by some local condition in or around the pelvic organs by intranasal treatment. It is, therefore, of the utmost importance that all cases must first be examined by an expert gynecologist.

Although it is to be admitted that we should be scientific in our work, and should, therefore, try and get the real connection between the treatment of the nose and its effect on the uterus, we must also admit that the effect of a thing is of much more material importance than its cause, especially to the patient; we do know that a number of cases of dysmenorrhoea having withstood all other forms of treatment are cured by intranasal canterization, and even if we are not positive of the exact relation between these two factors, we should not be deterred from carrying out such a simple procedure, which is of such great aid, merely because we are unable to give with positiveness its exact scientific explanation.

22 East Jones St., Savannah, Ga.

BIBLIOGRAPHY.

1. A. M. A., Jan. 3, 1914, PP. 6-8.
2. American Journal of Obstetrics, July, 1913, vol. 1, xviii.
3. New York Medical Journal, May, 1908, vol. 1, xxxvii, PP. 989.
4. Atlas of Anatomy, 1907.

DO YOU KNOW THAT

Plague is a disease of rodents?

Malaria is spread by a special mosquito?

House screening is a good disease preventive?

Fingers, flies and food spread typhoid fever?

The registration of sickness is even more important than the registration of deaths?

Neglected adenoids and defective teeth in childhood menace adult health?

A low infant mortality rate indicates high community intelligence?

BRIEF HISTORY OF, AND DEMONSTRATION BY, CONGENITAL DEAF MUTES HEARING AND CONVERSING OVER LONG-DISTANCE TELEPHONE, UNDER AUSPICES OF MACON MEDICAL SOCIETY, OF BIBB COUNTY.*

Maury M. Stapler, M.D., Macon, Ga.

In order to eliminate signs and the suspicion of lip-reading, I planned to have the demonstration indicated in the title. Such scientific work appealed so little to the members of the Scientific (?) Committee, they gave 20 minutes for the demonstration, and the subject the last place on the program, making it doubtful if it should be heard at all.

Of course, it was impossible to carry out my demonstration, as outlined, but rather than be put in the light of getting on the program for advertising purposes, I took two of the five cases to the meeting of the Medical Association of Georgia at Columbus, Ga.

The Macon Medical Society, of Bibb County, under whose auspices the demonstration was proposed, had appointed a committee which attended the meeting at Columbus with me, and through their insistence the program was continued, and this important scientific subject was given a hurried 20 minutes, that the election of officers might take place. Little time for demonstration—no time for discussion.

The claims set forth are unusual—and to be accepted absolute proof is required by the medical profession.

Demanding proof and denying the opportunity to make it. Is that fair? If I haven't the proof, I should be, and would have been, put out of the profession.

After the severe criticism which I have had to stand the deaf should be permitted to know the method is successful, in a certain class of cases of deaf mutes, and offers a prospect of benefit to certain adventitious deaf conditions, not amenable to present accepted treatment.

I expected my demonstration to take the place of my paper, and since I have reported the cases previously in print, a repetition is not necessary now, under the circumstances.

It is *something* that the members of the Association present saw and heard—that the clinic could hear and talk, and the demonstration on glass models of the ear worked in a way to demonstrate that the physics of the instrument are correct. Proof is available to show that autopsies cited to prove the essential structures of the ears of deaf mutes is destroyed, and hearing can not, therefore, be established, are worthless.

If, in the more than fifteen years I have devoted to this work, I have seemingly gone too far, been too persistent, or skirted too near the permissible in public print, I wish the profession to know that it was after I had exhausted all other avenues for material that I had gotten the General Assembly of Georgia to make a place for a "Specialist" at the Georgia School for the Deaf, and I was then denied the material there, with which I sought to demonstrate to the profession.

Having, from the very first, shown my easiness to my local Society, I appealed to it in this extremity to be permitted to get material as best I might, until I could have demonstrated my work to the medical profession.

The Macon Medical Society of Bibb County granted what latitude was necessary to obtain material to demonstrate to the profession. With such backing I submitted to the misrepresentation and abuse, where my rebellious spirit cried to have it out man to man, but I was then carrying what would have been the forlorn hope of the deaf, had I lain it down for selfish gratification and abuse. My critics, relying on the long-established prejudice of the medical profession, against one claiming to establish hearing for deaf mutes, and venting a personal revenge, under the guise of scientific discussion, offered as unquestionable facts, old autopsies, and making positive assertions that the claim made by me is a physical impossibility, and the physics of my instrument is wrong, all of which I am prepared to refute utterly. But I can not do so, if the suspicion of my colleagues, based upon an imperfect knowledge of the spirit inspiring my critics, put aside my proof with the statements, "We can not discuss this." "It is a specialty within a specialty and presented in a new light." (Olar Southern Medical Association, Jacksonville meeting.)

*Read at meeting of Medical Association of Georgia, Columbus, Ga., 1916.

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EXCLUSIVE PUBLICATION: Articles are accepted for publication on condition that they are contributed solely to this journal.

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NEWS: Our readers are requested to send us items of news of a medical nature, also marked copies of local newspapers containing matters of interest to physicians. We shall be glad to know the name of the sender in every instance.

NEXT MEETING OF ASSOCIATION

AUGUSTA, APRIL 18, 19, 20, 1917

**PAPERS TO BE READ AT MEETING
MUST BE IN HANDS OF SECRETARY
BEFORE APRIL 1ST; OR, INSTEAD,
TITLES OF PAPERS WITH SHORT AB-
STRACTS.**

ASSOCIATION OF STATE AND MUNICI- PAL HEALTH OFFICERS.

This Association will hold its annual meeting in Augusta April 17th, the day preceding the meeting of the Medical Association.

IMPORTANT.

At a recent meeting of the Council of the Association, it was decided that, in order to successfully carry out the provisions of the Medical Defense By-Law, it would be necessary to adhere strictly to another By-Law requiring all members of the State Association to be members of some component society, and I was instructed by the Council to return all checks tendered in payment of state dues unless such checks were sent by the secretary of a component society.

During the process of reorganization of the Association, it has been customary to allow individual members to send their personal checks in payment of dues, especially where there was no county society, but the Council now feels that the Association is giving its members ample compensation in return for the small amount of dues required and, therefore, the Association is due a certain amount of assistance from its members and feels justified in requiring of these members the small exertion necessary to communicate, by phone or otherwise, with their brother physicians and perfect an organization in each county having as many as five physicians who are eligible.

In counties with less than five eligible physicians, or where it is impossible to organize a society, it is expected that members will join a society in some adjacent county and pay their dues through such society.

A number of counties in the state already have more than five members whose dues are paid regularly, but who never meet for the purpose of electing officers and, therefore, other applicants in the county who wish to become members are debarred from this privilege in consequence of having no organization to pass upon their eligibility.

This being the case, I have no alternative, other than to request that you will immediately get in touch with other desirable men in your county and proceed to perfect a local organization.

Your sincere interest in the Association, as evidenced by your continuous membership therein, warrants me in asking this service of you. Yours sincerely,

W. C. LYLE, M.D.,
Secretary.

SIGHT-SAVING EFFORTS IN GEORGIA.

An interesting and informative "Summary of State Laws and Rulings Relating to the Prevention of Blindness from Ophthalmia Neonatorum," has recently been issued by the National Committee for the Prevention of Blindness, New York. In condensed form, their tabulation of the provisions of these laws, shows the following:

1. The reporting of babies' sore eyes to the local health officer, or to a physician is compulsory in 37 states.

2. The reporting law is printed on the birth certificate in 7 states.

3. Local health officers are authorized and required to secure medical attention for un-cared-for cases, or to warn parents of the dangers and advise immediate treatment in 21 states.

4. Births are reported early enough to be of assistance in prevention of blindness work in 11 states.

5. The question as to whether or not precautions were taken against ophthalmia neonatorum is included on the birth certificate in 14 states.

6. Free prophylactic outfits are distributed to physicians and mid-wives in 16 states.

7. The use of a prophylactic (specified by the State Board of Health) as a routine, is compulsory in 15 states, and strongly recommended in an additional 5 states.

8. Popular educational leaflets, relating in whole or in part to prevention of infantile blindness, are distributed by State Departments of Health in 29 states.

Indicative of the results achieved by the enforcement of these laws, and by an increasing knowledge on the part of the public regarding this disease and its attendant menace to vision, are the following figures taken from the same publication:

Proportion of Pupils Newly Admitted to Schools for the Blind During the Past Nine Years Who are Blind From Ophthalmia Neonatorum.

School year	No. of schools	Total new admissions	Pupils blind from O. N.	Per cent.
1907- 8	10	290	77	26.5
1908- 9	14	300	68	22.6
1909-10	13	325	67	20.6
1910-11	15	351	84	23.9
1911-12	24	415	88	21.2
1912-13	21	386	88	22.7
1913-14	19	428	84	19.6
1914-15	28	602	91	15.1
1915-16	35	666	127	19.0

These statistics show that there has been an appreciable decrease in the percentage of pupils blind from ophthalmia neonatorum enrolled in State Schools for the Blind in recent years, and yet emphasize the fact that there is yet much to be accomplished before blindness from this cause shall be done away with.

This paper will not discuss the general subject of ophthalmia neonatorum—it will merely endeavor to help the movement intended to exterminate this disease, and point out the possibilities of organized preventive effort in the State of Georgia.

The summary referred to in the first paragraph of this paper shows that there are still several states in which are to be found no laws or regulations on this subject. Among these is listed Georgia. That fact in itself is no criterion on which to urge the passage of model legislation of this nature, unless there can be shown a definite need for same. That such a need exists is apparent to those who have knowledge of the number of pupils enrolled in the Georgia Academy for the Blind at Macon, who are receiving their education there because of blindness caused by ophthalmia neonatorum. Leaving aside for the moment the question of prevention of suffering and the life-time of darkness which is the lot of those for whom the light has failed—let me state this problem on a purely economic basis, the significance of which will be recognized by physicians and laymen alike. Just what does blindness from ophthalmia neonatorum (this entirely preventable cause) cost this state?

Georgia has always given generously for the maintenance and education of its little blind citizens, and the annual appropriation of state funds compares favorably with many richer states in other sections of the country. \$30,000 is the annual appropriation made for the Academy for the Blind, located at Macon, and based on the average annual enrollment, this means a per capita appropriation of \$300.

Approximately 30 per cent of the pupils enrolled this year are blind because of ophthalmia neonatorum. This one group, therefore, is costing the state more than \$9,000 a year. These children will probably remain at the Academy for an average of ten years each, so that before they graduate, they will have cost the state between \$90,000 and \$100,000.

To educate these boys and girls in the public school system, where they could be entered if they were in possession of their sight, would cost \$14.19 each per year, according to the statistics of the Bureau of Education, United States Department of the Interior. The total expenditure for the entire group for ten years would be less than \$5,000—about 5 per cent of the present needless tremendous total.

The cost to Georgia does not end when the blind children graduate from the Academy. The loss in earning power, and the fact that our blind men and women must of necessity fall far short in normal productivity, has a deep significance in dollars and cents to every community in the state. With a minimum of 1,700 blind men, women and children in Georgia, more than half of whom are needlessly blind, it would seem that there should be no opposition from any quarter, to such preventive measures, legislative and educational, which have proven efficacious in so many other states.

What shall we do in regard to this? Shall we sit supinely and watch this annual procession of our Georgia boys and girls wending their way along dark pathways to our State Academy for the Blind, or rather shall we not en masse put ourselves on record for the early adoption of a law and regulations which will gradually reduce blindness from this cause in Georgia, as it is doing in other states? A movement looking toward legislation of this nature has already achieved considerable headway.

The provisions of the bill under consideration are based on the enactments in Ohio, the most carefully drawn of all the laws on this subject, and the principles of which have been embodied in the laws and regulations of many states—most recently Minnesota and Mississippi.

This matter will come up for general discussion at the coming annual meeting of the Georgia Medical Association. Dr. J. G. Dean, in commenting on this movement, has said: "I feel that we, as physicians, can scarcely aid in any move of greater meaning for good to the state."

Dr. Frank Allport, chairman of the Committee on Conservation of Vision, of the American Medical Association, recently urged Georgia, among other states enumerated, where no ophthalmia neonatorum laws exist, to see that suitable laws are immediately passed. To quote from his final paragraph: "I am well aware of the fact that laws alone will not produce reforms; but laws should be passed, in order to have a foundation upon which reforms may be built."

Active co-operation is promised by the National Committee for Prevention of Blindness in helping to make generally known this movement throughout the state. Education, combined with the enforcement of a model law and regulations, will go far towards the prevention of blindness from this cause in future in Georgia.

The more money The Journal of the Medical Association of Georgia makes out of its advertisements the less it costs the State Association to run the paper. This means that every member of the State Association has an interest in the advertising columns. If one business firm advertises and another does not, patronize the one that does. It is money in your pocket.

Post-partum chills and fever are more often due to causes outside the pelvic organs than to pelvic infection. Therefore, examine the breasts (mastitis), kidneys (pyelitis), lungs (pneumonia) first, the genitals last of all.—American Journal of Surgery.

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BOOK REVIEWS.

DISEASES OF THE EYE. By George E. de Schweinitz, M.D., LL.D., Professor of Ophthalmology in the University of Pennsylvania. Eighth Edition, thoroughly revised and enlarged. Octavo of 754 pages, 386 text illustrations, and seven lithographic plates. Philadelphia and London: W. B. Saunders Company, 1916. Cloth, \$6.00 net; Half Morocco, \$7.50 net.

The new eighth edition of this standard work fulfills our expectations. Of particular interest is that portion devoted to the Elliott Operation. This is written by Colonel Elliott himself and his description is very complete. The Sweet Method of localization of foreign bodies by means of the X-Ray is fully detailed. A number of new illustrations appear and the work, as a whole, is in greatly improved form.

MANUAL OF OTOTOLOGY. By Charles Edwin Perkins, M.D., F. A. C. S., Professor of Clinical Otology in New York University and Bellevue Hospital Medical College. 12mo. of 445 pages, with 12 illustrations. Philadelphia and New York: Lea & Febiger, 1916. Cloth, \$3.00 net.

This Manual, while intended primarily for students and general practitioners, goes sufficiently into detail to make it of great value to the Aurist. The simpler and less serious affections, which fortunately form the larger part of aural practice, have been discussed in full detail as to their diagnosis and treatment, and the orderly sequence in which these topics are taken up should afford the reader a properly correlated conception of the entire subject.

DISEASES OF THE NOSE AND THROAT. By Algernon Coolidge, M.D., Professor of Laryngology in the Harvard Medical School. 12mo. of 360 pages illustrated. Philadelphia and London: W. B. Saunders Company, 1915. Cloth, \$1.50 net.

The greatest use of this book is as a guide to the practitioner in his clinical work. The minimum of space is devoted to the consideration of subjects requiring reference to books of a more extensive scope. Considerable space is devoted to arguments for and against the more common operations and methods of treatment. The diagrams are used to make more clear the meaning of the text and are of value.

J. B. Lippincott Company announce the publication of a new and thoroughly revised edition of Fuchs' Ophthalmology by Dr. Dnane. When Hofrat Fuchs learned that another American edition was projected, he

not only gave his permission for the insertion of such additions as in the translator's judgment might seem desirable, but also with characteristic kindness himself supplied notes of many additions and changes. These, therefore, as well as the many alterations made by the translator, are not contained in any German edition.

Continued from page 234

Scientific men should be able to rise high enough to discuss and accept scientific matters from every source, and time should be provided for its proper presentation to scientific bodies.

Because a man meets with personal criticism, is no reason humanity should be denied the benefit of science. Criticism has ever been the portion of a pioneer in medicine. In this very state I have known critics born of a report to the Board of Councillors. Personally, I am not concerned. Wrong demands snap judgment, right can afford to await patiently the evidence of events.

The point is, children are becoming fixed as deaf mutes who should not be rightfully so afflicted. Open acceptance of the method by the medical profession is the only way the deaf will receive the benefit.

I am not seeking favor—I am asking justice for the deaf. My American blood will not permit me to "bend the pregnant hinges of the knee, that thrift might follow fawning."

The five who were to use the long-distance telephone are Robert Roberson, Annie Ruth Holley, Ethel Epps, Ammy McBain and Gwen Woodard—the latter the daughter of a prominent physician of this state.

Most of these and some others are keeping up with the grades of the public schools at their homes, whereas they would have been students for the schools for the deaf, and forever committed to signs.

I am not bidding for this class of patients—I am merely asking the opportunity to present facts and have them accepted or refused upon their scientific merit that the deaf may get their due. Those who specialize on the ear realize, if they do not admit, moving the fixed stapes without undue traumatism is an advance.

Surely, this is the age when the man crying, "It can't be done," is interrupted by the man doing it.

TITLES OF PAPERS

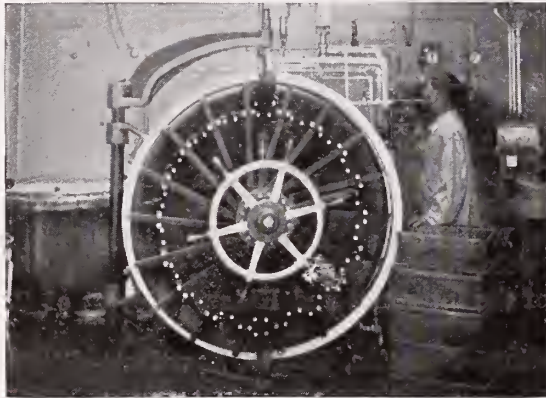
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OBSERVATIONS ON THE USE OF AUTOGENOUS VACCINES—A SUMMARY OF THE VIEWS AND EXPERIENCES OF SOME OF THE FOREMOST PHYSICIANS IN THE UNITED STATES.*

Allen H. Bunce, A.B., M.D., Department of Clinical Pathology, Emory University, School of Medicine, Atlanta, Ga.

Desiring to obtain the personal views of men following different lines of work on the value of vaccine therapy, more than a year ago I began writing to a number of physicians for their experiences with vaccines. The questions asked were: (1) What do you consider the present status of vaccine therapy? (2) In what class of cases do you consider autogenous vaccines to be of the most value? (3) To what do you attribute the failure of these vaccines in many cases of localized infections? (4) Do you consider vaccines to be of any value in general infec-

tions? The following have been selected as the most representative of the replies received, both for and against vaccine therapy, and also contain the fullest explanations to the causes of success and failures:

Internal Medicine.

Dr. Frank Billings, Chicago.—Pathogenic organisms isolated from a chronic focal infection and proved to be the etiologic factor in the local disease, may be made into autogenous vaccines of value in the treatment of the focal infection.

Vaccines sometimes made from focal infections are not the etiological cause of the local infection and consequently are of no value. The pathogenic organisms may be members of the streptococcus-pneumococcus group, staphylococci and in the urinary tract may be the colon bacilli. The failure of vaccines to produce good effect is often due to the fact that the organisms isolated are not pathogenic. Or that a different strain of a member of the streptococcus-pneumococcus group is used than that which is the real cause of the disease. Autogenous vaccines may be of value in general infection of a

*Read at meeting of Medical Association of Georgia, Columbus, Ga., 1916.

Authors desiring reprints must notify Phoenix Printing Company, Augusta, Ga., within 15 days after publication. Prices of reprints published in this issue.

chronic type and in an acute general infection like typhoid fever a sensitized typhoid organism has proved to be of value used as a vaccine.

Dr. Ernest E. Irons, Chicago.—There seems to be no question that in certain cases of localized infection active immunization by the organism giving rise to the infection, stimulates the production of immunity, as evidenced by the more rapid healing of the lesion. Granting that this is true, it seems reasonable to use an antigen for such an immunization, which most nearly conforms to the infection under treatment; therefore, autogenous vaccines will likely be of more value.

I should say that many of the failures of such treatment in localized infections rise from the fact that cases are often carelessly studied and that ordinary surgical principles calling for the relief of tension of an abscess, establishment of thorough drainage, and elimination of foreign bodies or of tissues, which are no longer living in fistulous tracks are neglected.

In the treatment of cases of metastatic bacterial lesions, arising from local infection, the greatest number of failures have occurred because all measures have not been taken to find and set right the original focus of infection.

Here, again, the great difficulty is the neglect of each adequate study of each individual case, not by rule of thumb, but individualizing each time.

With regard to the use of vaccines in general infections: We are not in a position to make any definite statements at this time. It is significant that the pronounced results which are seen after intravenous injections of typhoid bacilli, colon bacilli, or albumose in cases of typhoid fever and other infections are clearly non-specific. Just how the critical drops in temperature are produced is as yet not well understood. It is possible that the stimulation of leukocytosis and the disturbance of ferment and anti-ferment balance in the blood sera as suggested by Jobling may later furnish the explanation.

Dr. Richard C. Cabot, Boston.—So far I have seen benefit from vaccines only in prevention of typhoid and treatment of chronic cases of furunculosis, carbuncles and other staphylococcus diseases.

Dr. Lewellys F. Barker, Baltimore.—In my

experience vaccines have been most helpful in the treatment of recurring furunculosis. They have also been helpful in some cases of chronic gonorrheal infections of the joints. I have been somewhat disappointed in the use of vaccines for other diseases, but it may be that we have not yet learned how to use them properly.

Dr. Frank Smithies, Chicago.—Replying to your communication of the 15th inst., would say that I find autogenous vaccines to be of value wherever it is possible to isolate definite organisms that appear to be responsible for a central localized infection or a group of localized infections of the same type. With the exception of typhoid fever and probably pneumonia, I consider vaccines of very little value in general infections. In general infections it has been our policy for the last year to increase the protective antibodies in the circulation by the transfusion of from 500 to 1,000 c.c. of whole blood, frequently enough to control the fever rise and the chills. When vaccines fail, in our opinion, it is due to the fact that the vaccines have been either improperly made or that the causative organisms have failed to grow upon the media selected for the cultures or that the vaccines have been given at improper times (in such manner as to prolong a negative opsonic phase), or the case is unsuited for vaccination, i. e., a septicemia.

Dr. Thos. R. Boggs, Baltimore.—I am not in a position to give you any extended opinion upon the use of autogenous vaccines. My own experience dates back some years, and I found it very unsatisfactory in the treatment of joints and complications of gonorrhea. We used at that time always carefully prepared vaccines of our own make. My later experience has been confined to the seeing of a few cases treated with stock vaccines for furunculosis and acne, with more or less good results. I have seen a number of cases of general (bacteraemic) infections treated with autogenous vaccines, and in no instances seen any convincingly beneficial results, in a few, definite harm. My feeling is at present that vaccine therapy is still very far from definite condition and that its application is bound to be limited.

Dr. N. B. Foster, New York.—With regard to the question in your letter, my experience with vaccines is limited to a few cases in hospital and what I have observed in consultation.

In theory, most bacteriologists are in accord in the belief that vaccine therapy rests on a sound principle, the theory of Wright is commonly rejected. This therapy thus far has been most successful in acne and furunculosis. It can not be expected to work when the patient is in so poor a state that he is unable to "react."

In generalized infections the evidence is not adequate for judgment. Some things that I have observed with pneumonia, typhoid and malignant endocarditis would indicate that further study would yield results. These methods are still in the problem stage. I regard the whole question of vaccine therapy as unsettled even as to whether the principle is scientific.

Dr. Alexander Lambert, New York.—I do not know whether my experience with vaccines will help you or not. In my experience I have found the autogenous vaccines have been most valuable in the cases of furunculosis due to staphylococcus and pyelitis cases due to coli infection. In a few cases I have found them to be of value in persistent nasal infections and bronchitis.

Their occasional lack of value in localized infections, I think, may be due to several reasons: One reason may be that you have a mixed infection and the growth on artificial medium may not be the same that is going on in the body, and the secondary infection may be chosen and the primary be discarded unconsciously in choosing which germ to make the vaccine from. Another reason may be that in the real acute local infections, the body is having all it can do to keep it localized and vaccines temporarily add to the poisons striking the body rather than stimulating the body to overcome those already poisoning it. In the very acute general infections I think the body is having all it can do to overcome it, if it be very acute and powerful, and if you add to the toxins of the bacteria you are only adding to the troubles of the body.

In the chronic and low-grade infections, you may aid considerably by giving small doses to stimulate a reaction, on the principle that all actions have a contrary and equal reaction and often a chronic infection does not cause a sufficient reaction at any one moment to force from the body a vigorous enough reaction to overcome it. It simply persistently poisons by tiny nagging doses without the equivalent vigorous blow that

would cause an equally vigorous blow in return.

Another thing, I do not believe that all bacteria poison alike. Some contain their poisons in the body, some produce poisons as toxins, such as diphtheria and tetanus. Even with the staphylococcus some of the reactions are due to the absorbed toxins and some due to body toxins, and here again you may get a different reaction and a different cause of failure at times.

As far as the streptococcus things are concerned, it is a mean germ without much immunity following an attack, even when recovery takes place. Some one from St. Paul has within the last two or three weeks written an article in the Journal of the A. M. A., and speaks of obtaining much better results by giving five to ten million germs of the streptococcus variety, often repeated for long periods, than by giving larger doses. Here you have the fact of the doses just sufficiently big to cause a good definite reaction against it and in this way help overcome an infection, whereas the big doses will overcome the defenses and diminish the power of the body to overcome the localized infections for which the vaccine is being given.

Dr. Max Einhorn, New York.—I have seen good results by the autogenous vaccines in the treatment of gonorrheal rheumatism.

Surgery, Including Orthopedic and Genito-Urinary Surgery.

Dr. John B. Murphy, Chicago.—In reply to your letter of the 15th inst., I would say that I am a very strong advocate of autogenous vaccines, particularly when they are autosensitized. Autogenous vaccines, in a large percentage of my cases, have had a striking effect on the process of repair, but it is most essential that the particular micro-organism which is producing the infection be secured. Best results are obtained in the acute infections and in metastatic arthritides of acute and violent types. They have no pronounced value in cases of suppuration where there is defective drainage as in the bacillary diseases of the genito-urinary tract with obstruction. Without obstruction recoveries are rapid and cures are permanent, but with obstruction to the urinary urethra the results are not good.

In the metastatic arthritides, and, in fact, in all of the cases in which vaccines are used, there are some very essential points to be

observed in order that good results may be obtained.

1. The autogenous vaccine autosenitized can be given in doses from two to ten times as large as the hetero-serum vaccines.

2. The vaccine should be given in colossal doses and severe reactions should be produced, both local and constitutional, such as a temperature of 103° or 105°. Best results are obtained in the cases which give the best response.

3. The injections should not be given too frequently. The patient should be given an opportunity to recover from the preceding injection before another is given.

4. Fresh cultures should be made from time to time in order to keep the vaccine up to the standard.

In tuberculosis infections, a mild reaction gives the best opsonic index and the best conditions for repair, but tuberculosis is always healed by encapsulation and not by phagocytosis. While in pus infections phagocytosis is the important process of repair, and, therefore, great reactions should be secured to produce the best defense against the invading micro-organism.

Dr. George W. Crile, Cleveland.—I have been rather disappointed in using autogenous vaccines in the treatment of infections, and have recently rarely had recourse to them. Kidney infections, in the absence of stone, and tuberculosis have given us our best results, yet with them there is much to be desired. I contribute the failure of these vaccines to two factors: (1) It is impossible to increase above a certain point the opsonic index so as to act against specific organisms; (2) In long standing cases the thickened wall of the abscess cavity interferes with the vascularity of the area.

It does not seem reasonable to me to use vaccines in the case of general infection where the body is already laboring under too great an amount of alien proteins circulating the blood. It appears to me in such cases we merely add to the body load which we are trying to throw off.

Dr. John B. Deaver, Philadelphia.—In answer to your letter as to the present status of autogenous vaccines, I beg to say I rarely use them. I have in the past done a good deal along this line, but it was never particularly satisfactory; occasionally I still use it in chronic infections, such as carbuncle, but

am unprepared to say whether they are of any moment.

Dr. Albert J. Ochsner, Chicago.—In answer to your inquiry of November 15th will say that we have used autogenous vaccines in many cases. In furunculosis we have had some very excellent results. In other cases, and especially in those of general infection, we have not had any favorable results which we could attribute reasonably to vaccines.

Dr. W. S. Henderson, Mayo Clinic.—To determine the value of autogenous vaccines it is really a very difficult matter, as only last year we reviewed our orthopedic cases that have been treated in this way and were unable to arrive at any definite conclusion, but will say that the results seemed encouraging and we continue to use the vaccines. However, removal of sequestra, curettement of sinuses, etc., should be done and every other means used. The main thing is to search for and, if possible, get rid of the primary focus of infection and after this at least a year's treatment with the autogenous vaccine should be carried out.

Dr. E. H. Beckman, Mayo Clinic.—We are very much in favor of using autogenous vaccines in various types of infection, and believe the results in these cases justify their use. We have had the best results in cases of skin infections and localized abscesses on the surface of the body.

Personally, I believe that the failure to obtain results in the use of vaccines is due to the fact that the particular strain of bacteria that is causing the trouble is not obtained and the vaccine is made from some other strain of the same organisms, which prevents obtaining the best results.

Dr. John F. Golden, Chicago.—“In what class of cases do you find these autogenous vaccines to be of the most value?” In cases where the patient shows a lowered resistance to staphylococcus that if after exposure causing lowered resistance staphylococcus manifests as osteomyelitis, arthritis and furunculosis. In above, of course, in addition to recognized surgical procedure.

“To what do you attribute the failure of the vaccines in many cases of localized infections?” Sloughing tissue, foreign body sequestrum of the bone and other bacterial flora than that which is in autogenous vaccine.

“Do you consider vaccines of any value in general infections?” Yes. Except streptococcus general infection.

Dr. William E. Lower, Cleveland.—I am in receipt of your letter relative to autogenous vaccines in the treatment of infections in my line of work. I will answer the questions in the order which they come.

1st. In what class of cases do you find these autogenous vaccines to be of most value? Would say, in colon bacillus infections of the urinary tract, but in these cases I do not feel that it can be relied upon. Occasionally we get rather striking results, but as a rule we have many more failures than good results.

2d. To what do you attribute the failure of these vaccines in many cases of localized infections? I do not know.

3d. Do you consider vaccines to be of any value in general infections? I consider that in some of the chronic infections the use of vaccines apparently has seemed to be of some benefit, but not as much as we formerly supposed. In short, while we use vaccines in a great many cases I am sure we are not getting the good results we claim to have.

Dr. W. F. Braasch, Mayo Clinic.—Since the field in which I am particularly interested concerns diseases involving the urinary tract, I will state in brief the result of our experience in the use of autogenous vaccines.

We have used vaccines more frequently in connection with pyelonephritis. It has been our experience that they are efficacious in a small proportion of the cases treated. It will be rather difficult to state the exact proportion, since we always use them in conjunction with some other form of treatment. However, we have seen a number of cases which have shown marked benefit from the continued use of autogenous vaccines. It is frequently necessary to continue this over a period of many months increasing the dosage to a very high degree. We believe they have sufficient value to warrant their use in this type of renal lesions.

Vaccines are only of value in a localized infection. We have tried them repeatedly in complicating general infections, and have been unable to see any benefit from their use.

Dr. Hugh H. Young, Baltimore.—I am sorry that I can not give you any opinion of value on the use of vaccines. Of course, I have tried them, both stock and autogenous, but as a whole have gotten poor results.

Eye, Ear, Nose and Throat.

Dr. Justus Matthews, Mayo Clinic.—We are not using vaccines as a routine here, since in the cases where they have been used, we have had very little encouragement. Usually there is an improvement for a short time, but later a relapse, which is uninfluenced by further use of the vaccine.

My opinion is not of great value, as I have not gone through systematically with a series of cases, but may do so as soon as our work can be arranged.

Dr. Carl Fisher, Mayo Clinic.—My work has been concerned with eye and ear diseases, and I have used autogenous vaccines on a large number of cases which did not respond well to ordinary measures. I have not used them in very acute infections. Furunculosis of the external auditory canal yields to vaccines in a striking manner. In cases of chronic inflamed chalazions and styas I have thought that some slight help was obtained, but I am always suspicious of improvements so slight as to leave a difference of opinion between different observers. In chronic suppurating otitis media I have never seen the slightest improvement. I may say, that in general, I find that autogenous vaccines only exceptionally give such a marked improvement as to leave no doubt in my mind as to the efficacy of the treatment.

As to the causes for this failure, I have sometimes wondered if the fear of a severe reaction does not lead us to give too small doses—nature's method is to make people sick with it. In the mastoid and middle ear, the scanty blood supply is probably to blame; also this agrees with surgeons who do bone work in other parts of the body. It is possible that we do not always get the offending organisms, but adventitious ones.

Bacteriology.

Dr. A. H. Sanford, Mayo Clinic.—Your letter of the 16th inst. at hand. In reply will state that we found autogenous vaccines to be of the most value in chronic localized infections, such as furunculosis and acne, and to be of some value in old discharging sinuses.

I think the failure of vaccine therapy may depend upon several fundamentals; first, failure to isolate the proper organisms; second, too excessive heat in sterilization; third, tolerance on the part of the patient to the par-

ticular endotoxin so that there is no response to produce antibodies.

Personally, I do not believe that vaccines are of any value in general infections.

‡Dr. Ludwig Hektoen, Chicago.—If the presentations in this paper are trustworthy, it may be concluded that the general results so far from the routine use of commercial vaccines, polyvalent and mixed, have no value as evidence for or against the curative usefulness of vaccine treatment and hence no value, either with respect to the soundness of the theory on which vaccine treatment primarily has been developed.

In sub-acute and chronic localized infections, the results appear to indicate that specific vaccines properly and skillfully used have value, quite because they increase the production of specific antibodies as demanded by the theory, but probably also because they stimulate leukocytis and other activities.

‡Journal A. M. A., Vol. LXVI, No. 21, 1591.

THE DIAGNOSIS AND REMOVAL OF FOREIGN BODIES IN THE TRACHEA BRONCHI AND ESOPHAGUS.*

C. L. Pennington, M.D., Macon, Ga.

The history of bronchoscopy and esophagoscopy, while dating back only a few years, holds a foremost place in modern surgery; the invention and development of the instruments that are used in the work has lessened in great degree the mortality of foreign body cases of the trachea bronchi esophagus. Previous to 1895, on encountering a case of foreign body in the lower respiratory tract the method of procedure was to perform a tracheotomy and search blindly for the object. When the body was lodged in larynx or esophagus coin catches and various types of forceps were used, and hoping by some chance that the object might be caught and extracted. Both seem now, in light of present knowledge, to have been a very crude and unscientific procedure. In 1895 Kirsten demonstrated a technique which he called autoscapy, by which he could make a direct exposure of the larynx for inspection; up to this time the indirect method with laryngeal

mirrors was the only available means. In 1896 Von Mikuluz reported that he had succeeded in exploring the trachea by means of a straight tube, and in the following year Killian removed a foreign body of the bronchus. Since that time rapid strides have been made in unfolding this new field of surgery. The direct inspection diagnosis and treatment of pathological conditions in the trachea bronchi esophagus. In 1902 Einhorn devised an instrument with an auxiliary tube in the wall of the main tube for the purpose of carrying a light to the lower end. In 1905 Jackson combined the straight tube of Killian with a light carrier of Einhorn, forming today what is known as Jackson's tube, which remains almost unchanged up to the present date. Many modifications of Killian's tube have been made, but the most important being that of Brueuing. I am firmly convinced that foreign bodies find their way into respiratory trachea or lodge in the esophagus much more frequently than is generally supposed; ample evidence of this is furnished in the fact of many cases several physicians have been consulted before that one makes the correct diagnosis, and then the gravity of the situation is realized. The history of cases are very important and especially in children, and it is very difficult to obtain, because the seriousness of inhaling or swallowing foreign bodies are not realized by the general laity. Physicians should be on their guard when there is the least suspicion that the trouble can be even remotely traced to such causes. The symptoms of foreign bodies in the respiratory tract are principally cough and dyspnoea, the cough being paroxysmal in character, and may or may not be severe. In the esophagus, the cardinal symptom is the difficulty in swallowing, but this may vary from time to time almost no disability to compete dysphagia. In the following carcinoma and stricture of the esophagus must be differentiated. In cases where the object has found its way into the bronchus the physical finding will give evidence of diminished respiration, together with signs of inflammatory changes into the areas supplied by the occluded bronchus. The X-ray is of the greatest importance and aid in making a diagnosis and in all suspected cases a radiograph should be taken. The diagnosis of foreign body, either in the esophagus or in the respiratory tract being made, the problem of its removal follows.

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and can be best accomplished and with minimum danger by means of the bronchoscope and esophaguscope. These instruments, as has been pointed out by Jackson, are in reality speculae, combined with suitable lighting attachment by means of which the interior of the esophagus trachea and bronchi may easily be explored and studied. These instruments are of two distinct types, the American, in which the light is placed at the lower end, and the European, in which the light is placed at the upper end and is reflected down the tube, both having their advantages and disadvantages. Tracheo Bronchoscopy is divided into two classes—upper and lower. Upper, where the tube is passed through the natural passages—the mouth, pharynx, larynx, trachea, bronchi. Lower, where the instruments are passed through the tracheotomy wound, the latter has rapidly become obsolete, and it can be said that a tracheotomy is now seldom, if ever, indicated as an aid to the removal of a foreign body.

In adults general or local anesthetics may be used, but the former (ether), is usually preferable. In children, under the age of 10, no anesthesia of any kind should be used. I am satisfied that they can be done with far less risk and with as much ease without any anesthetic. With local anesthetic, the patient may be placed in a sitting posture, but when general anesthetic is used, patient should lie flat upon the back, with the head held not hanging beyond the end of table. Serious organic diseases are the only contraindication in exploratory operations, and there can be no contraindication once the presence of the foreign body has been positively determined.

The dangers of bronchoscopy and esophagoscopy are slight in operating in the respiratory tract. The chief danger is in continuing any one sitting for too long a period. If the object has not been accomplished after forty or forty-five minutes' work, it is much safer to discontinue and allow the patient 24 or 36 hours to recuperate. Killian has reported one case where ten sittings were required for the removal of a foreign body from the bronchus. In the esophagus compression of the trachea must be guarded against, for, as we know, the cartilaginous rings of the trachea are deficient posteriorly, and if too large a tube is used or the instrument is improperly held, pressure upon the

trachea may cause difficulty or even complete cessation of respiration. No undue force should be used in passing the tube. Every move should be seen and the tube advanced only when lumen of a trachea or esophagus is seen to receive it. The early diagnosis and prompt removal of foreign bodies, either from a respiratory tract or esophagus, is of the greatest importance, as the dangers of pneumonia, ulceration and sepsis rapidly multiply.

DISCUSSION ON THE PAPER OF Dr. PENNINGTON.

Dr. Cecil Stockard, Atlanta: About six months ago, I was called to see a girl, 14 years of age, very fleshy, and quite tall. She had been sewing on buttons, and having buttons in her mouth one of them slipped into the larynx, caused a choking sensation, so that she could only breathe with difficulty. Her voice seemed to be all right. She was sent to the hospital, and examination showed a foreign body in the right bronchus. Before preparation for operation could be made she gave a slight cough and the button came out. She recovered without any untoward symptoms.

Dr. F. P. Calhoun, Atlanta: This is a very neglected field of surgery in the South, and I think we are very fortunate in having some one who really wants to do this work and who can do it thoroughly. I feel as though we should encourage Dr. Pennington in this new field of work in Georgia, because there is no man that I know of who is doing any surgery of this sort, and it takes many cases to make a man perfect, and, therefore, we should encourage him by sending him our cases so that he can become more thoroughly expert and perfect in his technic.

Dr. H. M. Lokey, Atlanta: I enjoyed the demonstration given by Dr. Pennington very much. In a great many cases of foreign bodies, as Dr. Stockard has said, the foreign bodies are expelled through coughing. These cases, however, require tracheotomy. Air getting into the trachea will stimulate coughing, and the foreign body may be expelled. In children it may be several days after tracheotomy before the foreign body is expelled, and before tracheotomy pneumonia may develop and the child may die. In these cases of foreign bodies, the sooner the

patient is seen the better. Such a patient ought to be seen by a man who is especially equipped for the work, without unnecessary manipulation taking place in the effort to get the foreign body out. To try to get a foreign body out of the larynx without being able to see it is poor and dangerous surgery. There is danger of traumatizing the larynx and setting up a laryngitis which may produce death more quickly than the foreign body itself.

Dr. J. G. Dean, Dawson: I think we ought to report our mistakes as well as the things we do that we are proud of, and that is the reason why I rise to say something on this subject.

On one occasion a patient was brought to my office on a Sunday morning (this was a few years ago) with a bean in the trachea. The patient was a little girl, 12 years of age, and the bean had been there for twenty-four hours. The parts were swollen and difficulty in breathing was great. Every effort, as a matter of course, in this case was made to establish voluntary breathing. The doctor who had the child in charge and brought her to me had done what he could, and we both proceeded to do what we could by the old way of treatment of having the patient bottom up and tickling the larynx, producing cough and so forth, but we did not adopt any such method as Dr. Pennington has described, and it was certainly a delight to me to learn something about his method and to find a man in the state who is equipped for this work, and who can remove these foreign bodies if we can get the patients to him promptly. In our case we proceeded along the line of the idea of doing tracheotomy. I forgot the question of voluntary breathing, and we proceeded to give the child a general anesthetic, and you can imagine what the result was. After the child was under the influence of the general anesthetic it was impossible for it to breathe voluntarily and breathing stopped. We saw our error, but without any formality we went into the larynx and undertook to find the foreign body, but we did not succeed in returning the child to consciousness.

Dr. Pennington (closing): In the removal of foreign bodies from the trachea and bronchi reeatal anesthesia is preferable at all times because there is no danger of anything like that mentioned by Dr. Dean. The danger is nil, when it is given by Guathmay's

method, which consists of 66.2 per cent. of ether and 33.1-3 per cent. of olive oil, one ounce for every 20 pounds per body weight as a preliminary preparation.

FIRST AID IN CONTUSED AND LACERATED WOUNDS.*

Dr. A. G. Little, Valdosta, Ga.

Railway work taxes the skill and judgment of the surgeon more than any other class of work. First, because we are dealing with a class of patients that are thinking of, or expecting dangers. Second, practically all of our wounds are dirty. Third, our patients, when we get them, are suffering, more or less, from shock. What to do and when to do it are often puzzling questions.

The majority of railway injuries usually have some open wounds. The open or lacerated wounds make up the bulk of our work. So it is this class of wounds that I will give what I find the best line of treatment.

These wounds are usually caused by the parts being caught between the cars, or crushed under the car trucks, or some heavy object falling on the parts.

These being the causes, we will always find the wounds dirty, car grease, dirt orinders mashed and ground into the tissue. Further, we will find an extensive area of devitalized tissue beyond the margins of the wounds.

In the treatment of these wounds the primary point is the repair of the injured tissue. This result will depend very much upon two things:

First. The general condition of the patient.

Second. The local condition of the tissues.

First. In the general condition of the patient we must bear in mind:

a. The mode of life, whether active or sedentary.

b. Any recent spells of sickness.

c. Condition of special organs, kidneys, lungs, heart or liver.

d. Also the constitutional conditions, syphilis, rheumatism, diabetes, acute or chronic anemia.

Second. In the local conditions of the tissues, we must take into consideration:

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- a. The blood supply.
- b. Area of injured tissue.
- c. Location of injury.
- d. Ability to immobilize wounds.

In giving first aid in railway injuries, where we have extensive lacerated wounds, we have the following points to consider:

First. Stoppage of hemorrhage.

Second. Treatment of shock.

Third. Cleansing and dressing the wound.

First. The treatment of hemorrhage should consist of the immediate stoppage of all bleeding points by applying a tourniquet when possible, or catching up all bleeding points with forceps, and, if patient's condition is not good, leave forceps on until condition improves. A temporary dressing should be applied, consisting of painting iodine in and around the wound, and covering the wound with sterile gauze.

Second. Shock should be met by an immediate hypodermic of one-fourth grain morphine with ten (10) drops of adrenalin. Apply heat to body and limbs, warmer clothings, hot water bottles, hot brick, hot saline enema given slowly, or strong hot coffee enema, saline infusions. No operation, thorough cleansing or permanent dressing should be attempted until patient has recovered from shock.

When the patient has recovered sufficiently from the shock or in cases where we can dress the wound when first seen, the skin about the wound should be thoroughly shaved, tincture of iodine painted in and around the wound, all dirt, grit, cinders and any foreign matter, shreds of **tissue**, or any devitalized tissue should be removed. In case the dirt and cinders are so ground into the tissue, where possible, the tissue should be cut away. When the wound has been freed as thoroughly as possible of all foreign matter, it should then be washed with saline solution. It should not be closed, drainage provided for, but dressed wide open with wet saline dressing and these kept wet. I think when possible, a saline irrigation would be good. When possible, the wound should be dressed so as to immobilize the parts.

An advertisement in The Journal of the Medical Association of Georgia will bring results. Rates sent on request.

SUBCUTANEOUS EMPHYSEMA IN A CHILD. CAUSE: FOREIGN BODY IN THE BRONCHI. CASE REPORT.*

Henry C. Whelchel, M.D., Lankford Bldg.,
Douglas, Ga.

Some of our writers (Pfandmiller and Schlossman) recognize three kinds of emphysema.

1st. The chronic alveolar generalized emphysema.

2d. In children acute alveolar emphysema.

3d. Interstitial emphysema. The following case comes under this head.

Interstitial emphysema is seen more frequently in children than in adults. It may develop as a subpleural or interlobular, but seldom as a peribronchial affection, and may extend through the mediastinum to underneath the external skin.

In post-mortem examinations, after all kinds of diseases accompanied by severe coughing and dyspnoea air vesicles in various stages of distension, movable and often arranged in chain-like rows, are found beneath the pleura. They are the result of rupture of the alveoli. We may have in localized tuberculosis a similar direct interlobular escape of air from small bronchi into the peribronchitic tissue.

But only interstitial emphysema produces clinical symptoms after it has increased in extent and penetrated the mediastinum, usually only when it has traveled along the trachea or esophagus and appears as a subcutaneous emphysema (originating from the lungs) is in general observed only in young infants after severe dyspnoea, and violent coughing, particularly in whooping cough, also in diphtheria, tuberculosis and bronchopneumonia. Interstitial emphysema progresses without any symptoms.

Even in cases of extensive accumulation in the mediastinum, it is only suspected when there is a rapid increase of dyspnoea and cyanosis (compression of the large vessels); but on the other hand it is easily recognized where it appears subcutaneously. There usually appears first on the neck at the base of the sternum, a soft, crackling swelling, more rarely first on the cheek. Then within 12 to

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36 hours the emphysema may spread rapidly to the neck, head, lateral portions of the thorax and the rest of the upper portion of the body.

In regard to the following case, I have been unable, in my limited opportunity for research, to find any literature on subcutaneous emphysema caused by a foreign body in the bronchi.

This is the second case of subcutaneous emphysema that has come under my observation. The other child about 12 years old, thrown from a horse, sustained a fractured rib, one end of which was jabbed through the plura into the lung.

Case Report.

Baby M. Age 2 years, was admitted to the hospital on July 27, 1914, with the following history: On July 20th, while eating a baked roasting-ear, the baby was seized with a violent paroxysm of coughing, which continued at intervals until August 4th. I saw the baby for the first time, with Dr. C. W. Roberts, on July 28th. He had decided dyspnoea and cyanosis, with crackling swelling on cheek, lateral part of thorax and the upper portion of the body. July 28th, tracheotomy was performed by Dr. C. W. Roberts.

July 29th, maximum temperature 103.6 degrees, pulse 150, respiration 60. July 30th, maximum temperature 102.8 degrees, pulse 140.

While dressing wound on this date one grain of corn was expelled through the opening in the trachea.

July 31st, maximum temperature 104 degrees, pulse 120, respiration 27; August 1st, maximum temperature 103 degrees, pulse 136, respiration 40; August 2d, maximum temperature 103.8 degrees, pulse 120, respiration 40; August 3d, maximum temperature 101 degrees; August 4th, maximum temperature 100 degrees.

While dressing wound on this date, baby expelled two grains of corn through opening in trachea. After this the cough ceased, the emphysema disappeared, and the baby made a rapid recovery, being discharged on August 7th.

I wish to thank Dr. C. W. Roberts for kindly furnishing me the record of this case.

An advertisement in The Journal of the Medical Association of Georgia will bring results. Rates sent on request.

REPORT OF A CASE OF TETANUS SUCCESSFULLY TREATED WITH TETANUS ANTITOXIN.*

By Frank Bird, M.D., Valdosta, Ga.

The object in reporting this case of tetanus is to reiterate my views and suggestions in a paper published in "The Therapeutic Gazette" January 15, 1916, entitled "Report of a Case of Tetanus," advocating larger doses of tetanus antitoxin.

The case that I am reporting today was the worst that I have ever seen and the recovery was complete. I will not burden you with a discussion of the diagnosis. I merely wish to make an effort to standardize the treatment. I consider tetanus antitoxin the best treatment, as far as my experience goes (having never used the magnesium sulphate treatment as described in detail in the Journal of the American Medical Association of March 25, 1916), and when the tetanus antitoxin fails to cure it is probably due to the fact that the physician's fear of serum sickness, anaphylaxis and other toxic reactions causes him to give a dose which is too small to be effective. This fear is of minor importance when we consider the desperate character of the disease and my personal experience goes to show that if we apply the axiom, "Desperate cases require desperate measures," we shall have the keystone to the treatment of tetanus.

Well defined tetanus is a short-lived disease, and we have been in the habit of thinking when creating it that the patient would probably die. The following case is interesting in several respects. Note as I go along the progress of the disease, unfortunate that it should happen thus, but it shows several good points. One of the first is that small doses of tetanus antitoxin merely hold the disease in check by neutralizing some of the toxins. Second, that untreated tetanus rap-

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idly proved fatal. Third, that large doses of antitoxin checks the disease absolutely and proves rapidly curative by combining with all the toxins already formed and leaving enough antitoxin in the system to neutralize any toxins that may be formed later, thus causing an immunity.

Patient, J. S., aged 11 years, school boy, living ten miles in the country, in perfect health to present attack.

First day. At noon time he started to get on a horse and he stepped backward, falling. He began to have muscular spasms of face and stiffening of the legs. I saw him an hour after the attack began. He was lying on a bench in the school room, unconscious. He had been given an enema and bowels moved freely. In the spasms the muscles of the face indicated severe pain. Teeth clenched and uncovered by the lips, the angles of the mouth being drawn backward. He was groaning. The abdominal muscles were tightly contracted. The right leg was somewhat stiff during the spasm, the left leg relaxed. The pulse beat was normal in character, rhythm and frequency except during the attack when it increased. Body temperature was normal. I was unable to say what was the matter with him, as I had never seen any condition with a beginning attack as peculiar as this one. However, I gave him morphia, grains one-eighth, by hypo., and left instructions to call me at 7 o'clock and report his condition. I also requested that he be given a dose of castor oil at some time during the afternoon if possible.

At 7 o'clock I received a message to the effect that the patient was much worse, the spasms being more frequent, more severe, and lasting longer. They also said that the whole body was involved. I saw the patient one hour later and found this condition to be true and immediately saw that I was dealing with a case of tetanus. The jaws were locked, the teeth clenched and the spasms caused a contraction of all the voluntary muscles of the body. However, the muscles of the left leg were not nearly so much involved as those of the right one. Upon questioning I learned that the boy had dropped a knife on his toe four nights previously. Examination showed a very slight skin abrasion, covered by a healthy scab. When I arrived

back in town I found that I was able to obtain only 3,000 units of tetanus antitoxin, as the stock had been taken up from the drug stores for exchange a few days before. However, I administered this amount by spinal puncture into the subarachnoid space, 10 hours after the beginning of the attack. Chloral and sodium bromide were given per rectum for the sedative effect. A brother of the patient was instructed to go to neighboring towns the next morning in an automobile and get more antitoxin while I telegraphed for a supply. He could obtain only 6,000 units.

Second day. In the morning the patient showed some improvement. The spasms were shorter and not so severe. In the afternoon, however, his condition was about the same as it was the night before. The spasms were very severe and he was still unconscious. During the spasms there was trismus, frothing at the mouth, cyanosis, increased frequency, but diminished volume of the pulse. A spinal puncture was made and some spinal fluid removed, then 3,000 units of tetanus antitoxin serum injected. Three thousand units were also given into the buttock of the right side in an effort to intercept some of the toxin on its way to the spinal cord.

Third day. There was apparently no improvement in condition regardless of the treatment given on the second day. At 10 a. m. he was in a state of almost continuous tonic spasm. The right leg was extended and stiff, could be bent by manual force, but always elicited a new spasm and from facial expression during manipulation it must have caused great pain. Severe spasms came on every three to seven minutes. A towel was constantly needed to wipe away froth from his mouth. Pulse too rapid to count. During spasms the whole body and face was convulsed and the patient presented a terrible picture. The disease had been so severe that he could hardly be recognized as the same boy. The neck was stiff and raising his head would inevitably excite another spasm. The lungs were filled with mucus rales and there was gurgling in the throat.

The serum that had been telegraphed for arrived, but it seemed to me that it was useless to give it, as I thought the boy would surely die. However, I injected 26,000 units directly into the median basilic vein (having

previously warmed it to blood temperature), also 4,000 units into the subarachnoid space, and 3,000 units into each buttock. At this time the temperature was 104 degrees per rectum. Camphor was given by hypo. every four hours to stimulate the heart. Four hours after the injection of the 36,000 units of antitoxin the patient was so greatly improved that it was hard to believe. The violent, convulsive spasms had entirely ceased. The neck and right leg were still rigid and jaws locked, but other muscles tonic. Temperature 97.4 degrees. He was still unconscious, but pulse and respiration were greatly improved. All frothing at mouth had stopped, but mucous rales still audible in the lungs. There was apparently no pain except as evidenced by a feeble groan when a slight spasm came on.

Fourth day. In the morning he showed still more improvement. In the afternoon he began to talk deliriously about seeing snakes and crows and eating crow soup. He begged his father to keep the snakes off of him and to kill them. No sleep or no rest that day. Morphia, grains one-eighth were given. No spasms, slight trismus present, muscles tonic. Later on in the afternoon he was occasionally able to recognize members of his family. He moved his head about and focused his eyes upon imaginary objects in the room. Neck shows some stiffness when head is brought toward chest. As I believed that the delirium was caused by increased intra-cranial pressure I made a spinal puncture to relieve same, withdrawing 55 cubic centimeters of spinal fluid. I also injected 3,000 units of concentrated tetanus antitoxin.

Fifth day. In the morning the patient recognized all members of his family and was even able to take some water through a tube. The neck was still slightly stiff. Hallucinations were present occasionally.

Sixth day. No spasms. Sleeping most of the day.

From this time on the patient improved rapidly. He took liquid nourishment and slept most of the time. No pain present, except from hypodermic injections of camphor.

In a few days he was able to sit up and later to walk around. He made an uneventful recovery, no trace of the terrible disease remaining.

Note that no effort was made to feed the patient through the mouth or nose. Nutrient enemias were given throughout the course of the diseases, some being retained and others expelled.

My conclusions from this case are practically the same as those drawn from the case reported in the *Therapeutic Gazette*, namely:

First, in all suspected cases of tetanus an immunizing dose of tetanus antitoxin (1,500 units) should be given into the buttock. If tetanus has already begun it will surely develop further.

Second. Trismus and spasms are sometimes the first definite indications of tetanus, coming on after a wound has practically healed, as in this case, but in about a third of the cases the first muscles to be involved or to show rigidity are those in the vicinity of the wound.

Third. Any rigidity occurring in a part following a wound should excite suspicions of tetanus and at least an immunizing dose of antitoxin should be given or treatment begun at once.

The condition, tetanus, is caused by the actions on the nerves of toxins liberated by the tetanus bacilli, the most poisonous of these toxins being tetanospasmin. The purpose of treatment is not so much to destroy the tetanus bacilli, but to neutralize its powerful toxins and destroy its union with the nervous system.

Fourth. Bacteriological examination of discharges for purposes of diagnosis is a useless waste of valuable time. The symptoms and history are more reliable and save time. The incubation period varies according to the amount of toxin in the system and the individual susceptibility to this toxin. It is usually from two to five days.

Fifth. In the treatment of developed cases one large dose of anti-toxin is more reliable and saves more time in the treatment and does a greater amount of good than several small ones frequently repeated. Consequently at least 15,000 to 25,000 units should be given (warmed to blood temperature) into the blood stream under aseptic precautions for an adult dose and three to

nine thousand concentrated serum into the subarachnoid space. If a chill should occur following the injection (which is not the rule) give a hypodermic containing morphia, grain one-fourth, with atropine grain one hundred and fiftieth. Nothing is so effectual as the above in stopping chill. If no improvement in symptoms is noted in twenty-four hours, repeat the above dose. In cases further developed, coming under observation with a history of repeated spasms, risus sardonius, trismus and the outlook poor, give 15,000 units concentrated antitoxin into the subarachnoid space and 25,000 to 35,000 units into the blood stream at once, and repeat in twenty-four hours if indicated. (Before giving the injection into the spinal canal allow about as much spinal fluid to flow out as the amount of serum which you intend to inject. This gets rid of some of the toxin as well as making space for the antitoxin.)

Sixth. Anaphylaxis appears to be less liable to develop after a single large dose than after repeated doses.

Seventh. Temperature is an uncertain symptom. It may or may not be present.

TETANUS.*

S. L. Vincent, M.D., Nichols, Ga.

Tetanus, or lockjaw, is an infectious disease caused by the lodgment in a wound of the skin or mucous surface of a specific micro-organism known as tetanus bacilli of nicolier, which is one of the smallest bacilli and can not live when it comes in contact with the oxygen in the atmosphere. It is difficult to destroy the spores and pus containing them has been dried for sixteen months, yet produce lockjaw when introduced under the skin of animals.

A temperature of 212 will readily destroy them. The bacillus so far has not been found in the blood or in the central organ; it is evident, therefore, that it remains near the wound of infection where it generates a vio-

lent poison which is absorbed and produces rapid infection and the convulsions peculiar to the disease. The time which may elapse between the receipt of injury and the appearance of the muscular spasms varies from a few hours to several weeks, usually within the first three weeks of the injury. The muscles supplied by the motor filaments of the fifth nerve are among the earliest to respond to this abnormal stimulus, hence the commonly accepted term of lockjaw. In the milder cases the tonic spasms may be altogether confined to these muscles. In severe cases the sense of distress is referred to the epigastric region, and this is followed by tonic muscular contraction, commencing with the diaphragm and involving in quick succession the muscles of the jaws, larynx and the back of the neck and dorsolumbar region.

Respiration is interfered with; the expression is extreme; the face becomes cyanotic and death may occur from fixation of the respiratory muscles. In most cases the mind is clear until carbolic acid poisoning occurs. The pulse and temperature varies between great extremes. Pulse from normal to 160. Temperature from normal to 112. In November, 1904, I was called to see J. E. Young, a negro man about 21 years of age on account of a shotgun wound in the right hand; he was walking across the field with an old-fashioned muzzle-loading shotgun on his shoulder, the stock behind him. He had his hand over the muzzle of the gun, which was loaded with slugs and nail-heads and the wadding was of rags. He became entangled in some weeds or cornstalks and fell, the gun was discharged and a good portion of the load lodged in his right hand and wrist, which lacerated them very badly. When I reached him I proceeded to cleanse the wound as thoroughly as possible, removing the slugs and wadding and washing with a strong antiseptic solution and then using an antiseptic dressing. He got along all right until about the fifth or sixth day. I was hurriedly called one morning and when I reached him I found his jaws locked, high temperature, a

*Read before Eleventh District Medical Society, Waycross, Ga., December 3, 1915.

Authors desiring reprints must notify Phoenix Printing Company, Augusta, Ga., within 15 days after publication. Prices of reprints published in this issue.

great deal of pain and every muscle of his body contracted and the spasms were coming on continually.

The muscles of his back and the back of of his legs were so contracted that he would at times stand on the top of his head and the bottom of his feet making an arch of his body. The diagnosis was tetanus. I administered morphine hypodermically and gave chloroform inhalations to allay the spasms as much as possible for 36 hours, when death was caused by fixation of the respiratory muscles.

S. L., 6 years of age. In November, 1907, while skipping over the floor had a small hole worn in the bottom of her shoe and stuck a splinter in her foot. When the splinter was removed a small sliver was left in her foot. In nine days she began to be very excitable, complaining of feeling bad, with high fever, and the muscles of her jaws began to contract. Dr. Meeks was called and at once made a diagnosis of tetanus. We incised her foot at the point where the splinter was stuck in and removed a small sliver. The wound was thoroughly cauterized and the anti-tetanic serum was used in twenty c.c. doses once or twice a day for several days; the spasms became milder every day and the patient fully recovered, and today she is one of the prettiest little girls within the bounds of Bacon County.

The more money The Journal of the Medical Association of Georgia makes out of its advertisements the less it costs the State Association to run the paper. This means that every member of the State Association has an interest in the advertising columns. If one business firm advertises and another does not, patronize the one that does. It is money in your pocket.

Children from sanitary homes advance more rapidly in school than those from dirty premises?

The United States Public Health Service believes that the common towel spreads trachoma, a disease of the eyes?

An advertisement in The Journal of the Medical Association of Georgia will bring results. Rates sent on request.

BURNS AND THEIR TREATMENT AND REPORT OF A CASE OF PHOS- PHORUS BURN.*

R. C. Dodson, M.D., Waycross, Ga.

The subject I am going to present at this time is, indeed, no new one, but to handle a case and get a successful recovery is no easy task.

Burns have a very varied etiology. In general they are caused by the action upon the body of direct flame, radiated heat, heated substances, caustics, acids, sun's rays, electric current, lightning stroke, which produce scalds which may be classified with burns. Hot fluids or steam are diffused quickly over a large surface and the saturated clothing keep up the action, and in this manner make more extensive wounds than a mere burn. Unlike most burns scalds do not destroy the hairs. Burns, however, are likely to a greater depth than scalds.

Acid burns are distinguished from each other by the various colors they produce when brought in contact with skin and mucous surfaces. Nitric acid causes a yellow stain, sulphuric acid a reddish stain, which later becomes dark or nearly black; carbolic acid causes a white eschar.

Hot water bottles are frequently the cause of extensive burns by being placed against an unconscious patient after operation for the treatment of shock.

Caustic produces burns when brought in contact with skin or mucous membranes. Caustic alkalies are not uncommonly swallowed by mistake, causing burns of the esophagus which may terminate fatally by perforation, or later by strictures, which cause starvation.

Pathology of burns, or the effect produced by the different variety of burns and scalds are so similar that they can be considered together. These effects are conveniently divided into three degrees. First degree burns are simply a hyperemia of the skin. The swelling is produced by dilatation of the superficial blood vessels and exudation of se-

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rum from the veins and capillaries; the outcome is a complete return to the normal condition; pigmentation may result, especially from burns caused by the sun's rays.

Second degree burns is that of vesication or bled formation. The exudation is more marked and the epidermis is lifted from the cutis. These blebs contain clear, yellowish or blood-stained serum, which becomes turbid from admixture of blood corpuscles. If a bleb is opened soon after its formation, the serum flows out and the reddened rete malpighii is seen; at other times the fluid will be found to have already coagulated in the form of a thin jelly-like substance, which can be removed only with difficulty. It is very common for these blebs to break open, and the contact of the clothes, for example, causes the epidermis to become displaced and roll up. Provided no infection occurs, causing destruction of the underlying cutis, the outcome of this degree of burn is the same as that of the first degree, namely, a return to normal condition without scar formation.

The process of repair is finished in about two weeks, and the area shows merely some pigmentation. If infection occurs, the resulting death of tissues may be followed by production of granulation tissue and a cicatrix. Just as happens in burns of the third degree. Burns caused by acids and caustic alkalis do not cause vesication. Burns of the third degree are those in which there is death of tissue produced by the burns. The more intense or prolonged heat involves the sub-epithelial tissues, destroys the blood vessels as well as the connective tissue by the withdrawal of fluid and coagulation of the albumin, and causes coagulation of the blood. The result is local death of the tissues and formation of an eschar.

This may be superficial death, only involving cutis or the destruction may extend to a greater depth, even the bone being involved. In fact, there may be complete carbonization of an extremity. The outcome of all such burns is sloughing granulation, with more or less supuration, and finally scar formation of greater or less extent.

Infection has the usual result of forming deep and unsightly scars, especially upon the face. If the parts are kept perfectly aseptic the eschar separates with very small amount of discharge, and tends to lessen the amount of cicatrix formation.

Burns and scalds may cause the following deformities: Ectropion of the lower lid, eversion of the lip, stenosis of the passage of the nose and ears, flexion of the elbow, and oedema of the glottis. Like other cicatrices those produced by burns may result secondarily in the formation of keloid or epithelioma.

The pathological changes in the more distant parts of the body are chiefly those of congestion of the viscera. The intestinal tract, kidneys, lungs and brain are found to be the seat of congestion after death. In exceptional cases ulceration occurs in the intestine, particularly the duodenum, and may result in perforation. The origin of these ulcers following burns, is still an open question; some authorities state that they are due to the destruction of epithelial covering of the mucous membrane from the action of mormate of ammonium absorbed from the burnt area. The more probable theory is that there is a primary thrombosis of small vessels in the wall of the intestine from accumulation of disintegrated red corpuscles and that this thrombosis is followed by necrosis. The necrotic areas subsequently undergo digestion by the intestinal juices, hence formation of ulcers.

Symptomatology—The local symptoms of the first degree burns are those of the mildest degree of inflammation. These are redness of the skin, slight swelling, increased warmth and pain, which varies according to the region involved and the extent of the burn. Burns of the first degree are usually fatal if more than two-thirds of the body surface is involved. Second degree burns symptoms are the same as those of the extensive burns of the first degree, except that they are more marked and may result from the involvement of less surface and formation of blebs. When more than half of the body is involved death usually occurs. A shock is almost invariably present in those extensive burns, and is one of the most important etiological factors in fatal cases.

Local symptoms of third degree burns may vary very much. There may be destruction of the skin only, or an entire part may be charred. The eschar is usually dry, brown, or blackish and without vitality; it may be white, resembling alabaster. The separation of the dead tissue from the living is accompanied by the usual signs of suppuration. If

the outer layers of the skin are alone destroyed, leaving the nerve endings exposed, the pain is much more unbearable than in the case where only the skin is involved. Complications of burns may be delirium, coma, due to cerebral congestion, pleurisy, pneumonia, erysipelas, tetanus, septicemia and peritonitis.

Prognosis—This depends in the first part on the age of the individual; it is distinctly more grave in the very young and the aged. The general health is an important factor; delicate women are more likely to succumb than robust men. Alcoholics offer a poor resistance and are more liable to visceral complications than non-alcoholics. The location and the amount of area are of great moment in the prognosis. Extensive burns of the third degree are likely to prove fatal from exhaustion, or septic absorption. Laryngitis, with edema of the glottis, calls for a dubious prognosis.

Treatment—The treatment of burns taxes the skill of the physician and surgeon more than any class of wounds in the realm of medicine. There are so many important methods and drugs used that I will only give a few that I have used with good results.

The treatment in itself involves both general and local measures. Extensive burns require the treatment of shock by the use of stimulants, saline infusions, etc. Pain is to be thought of, as it is the chief annoyance to the patient. Morphine should be administered carefully by the hypodermic method. In very extensive burns a general anesthetic should be given for the first dressing. If the body is half burned the patient should be placed in a warm bath of salt solution or a weak sodium bicarbonate solution. The patient may be kept in such a bath for days or even weeks. The more popular dressing for burns are as follows: Equal parts of linseed oil and lime water, boric acid ointment, vaseline, 1 per cent carbolic solution, dusting powders of boracic acid, dermatol, zinc oxide and aristol.

In cases of emergency molasses, flour or starch may be employed to an advantage. I have even heard of ink being used for hot oil burns. No matter what dressing is applied, it should be sterile and should be put on aseptically. The dressing that I have found to be comfortable and healing is that of picric acid solution, composed as follows:

R Picric acid, grains 75; alcohol, oz. 21-2; water, distilled, 2 quarts. This applied on sterile lint or gauze to the burnt areas relieves the pain and diminishes suppuration and leaves a healthy scar. In the coal region of Pennsylvania, where severe burns are frequent the following is used:

R White lead, oz., 8; powder acacia, oz., 2; sodii bicarb. dr., 1; linseed oil to make a thick cream. This does not require frequent renewals, and repair of injured surface is rapid under its use.

Nitzsche first disinfects the burnt surfaces with carbolic acid, after which it is covered with a thick varnish of linseed oil and litharge mixed with 5 per cent of salicylic acid. After the first coat is dry a second one is applied and the whole is covered with a thick layer of wadding and a bandage.

Cicatrization occurs without a change of dressing. If suppuration occurs, the wadding is removed and dry salicylic acid is dusted over the surface. Ulcers resulting from suppuration of dead tissue should be touched up with a solution of silver nitrate, 5 grains to the ounce, then an aseptic gauze dressing applied.

Some important points not to be overlooked: Never fail to treat the shock and relieve the pain. Be very chary of giving morphine to children hypodermically. Remember that normal saline and bicarbonate of soda solution, a teaspoonful to each pint of warm water, as a bath, will stop all pain very promptly.

Don't renew the dressing too often while the burn is sensitive, but don't allow them to become annoying to sensitive nostrils. If the burn is extensive, don't uncover it all at one time while still painful—by the piece.

Always be on the watch for renal as well as duodenal complications. Never forget the real value of skin grafting in promoting healing and preventing later contractures. Generally speaking, dress burns in the flexures of the joints, with the joint in extension on a splint, and keep the limb so until healing is complete.

By far more than three-quarters of the deformities, due to scar of burns, are preventable by proper attention while treating the burns.

PROGRAM.

**Sixty-eighth Annual Session, Augusta, Ga.,
April 18, 19, 20, 1917.**

INFORMATION.**Hotels.**

The Albion, Genesta and Plaza Hotels are all within three blocks of place of meeting, and all are equally recommended. The Albion Hotel will be headquarters for the Council.

State and Municipal Health Officers.

This Association will hold its Annual Meeting at the City Hall on the day preceding the meeting of the Medical Association.

Railroad Surgeons.

A meeting of Surgeons of the Georgia Railroad, Charleston & Western Carolina Railway, Georgia & Florida Railway and Augusta Southern Railroad will be held at Albion Hotel Tuesday, April 17th. A banquet will be tendered these Surgeons at 8:30 p. m.

Committee for Medical Preparedness.

A meeting of the State Committee, together with members of the District Committees for Medical Preparedness, will be held at the Country Club, Thursday evening at 7:00. Those in attendance remaining for the Annual Banquet later. All medical officers of the National Guard or of the Reserve Forces, together with members of the Association who desire to apply for commissions in such forces, are invited to attend this meeting.

MEMBERSHIP CARDS.

In order to facilitate registration it is urged that every member be prepared to show his membership card at the registration desk, where badges will be provided.

ENTERTAINMENT.

The Association Banquet will be given at the Country Club Thursday evening at eight-thirty.

The Annual Luncheon of the Ophthalmological Club will be given at the close of the morning session Thursday.

MEETING OF COUNCIL.

The Annual Meeting of the Council will be held Tuesday evening preceding Association Meeting.

Wednesday Morning, April 18th.

Meeting of House of Delegates at 9:30 o'clock.

Meeting called to order at 10:30 by President:

J. G. Dean, M.D., Dawson.

Invocation:

Rev. Howard T. Cree,
Pastor First Christian Church.

Address of Welcome on Behalf of City:

Hon. J. R. Littleton, M. D.,
Mayor City of Augusta.

Address of Welcome on Behalf of Local Profession:

J. M. Hull, M.D.,
President Richmond County Medical Society.

Response to Addresses of Welcome:

Stewart R. Roberts, M.D., Atlanta.

Report of House of Delegates.**PAPERS.****1. The Sins of Omission and Commission of the General Practitioner of Today.**

C. K. Sharp, M.D., Arlington.

Discussion opened by

M. A. Clark, M.D., Macon, and
H. E. Felton, M.D., Cartersville.

2. Painful Heel.

Theodore Toepel, M.D., Atlanta.

Synopsis:

A number of different pathological conditions may produce a tender heel. The cause may be a bursitis aroused by muscular action, but more commonly it is a periostitis or an exostosis of small size, either at the posterior part of the heel or upon the plantar surface following gonorrhea. Spurs on the lower surface of the os calcis may also be the cause of severe pain. Such growths are best revealed by the X-ray. They may arise either from traumatism or from sudden mus-

cular action, with tearing up of the periostum and deposition of new bony matter.

Bursitis-traumatic, gonorrheal, infections or otherwise, beneath the insertion of the tendo-achillis will often produce achillodynia with pain and sensitiveness and will be very disabling, especially if thickening or effusion occurs.

Chafed heels from shoe friction will give great discomfort.

The diagnosis from tuberculous infection is marked by the violence of the symptoms. In infected crush wounds of soft parts and bones, it is sometimes impossible to decide as to the existence of calcaneal infection except by the X-ray.

Discussion opened by

Asbury Hull, M.D., Augusta, and
Michael Hoke, M.D., Atlanta.

3. The Classification of Mental Disorders Adopted by the Georgia State Sanitarium.

E. M. Green, M.D., Milledgeville.

Discussion opened by

E. Bates Block, M.D., Atlanta, and
H. D. Allen, M.D., Milledgeville.

4. Endothelioma of the Kidney.

John Funke, M.D., Atlanta.

Synopsis:

The paper will deal principally with the pathology and the report of three cases. The symptomatology and the diagnosis will be dealt rather superficially because that is out of my realm and because I am laying much stress on the pathology since it is a form of growth which is not reported. In my search of the literature at the library of the College of Physicians at Philadelphia, I was unable to find but few cases reported.

Discussion opened by

Everard Wilcox, M.D., Augusta, and
V. H. Bassett, M.D., Savannah.

5. Medical Organization and Some of Its Advantages.

J. Lawton Hiers, M.D., Savannah.

Discussion opened by

W. W. Pilcher, M.D., Warrenton, and
W. L. Fitts, M.D., Carrollton.

6. Treatment of the Nausea of Pregnancy.

S. T. Barnett, M.D., Atlanta.

Discussion opened by

Giles Hathcock, M.D., Lula, and
L. J. Belt, M.D., Millen.

7. Patent Medicines and Quacks.

J. O. Elrod, M.D., Forsyth.

Synopsis:

The Federal Public Health Department should have control of these two evils but as in the cause of Prohibition, I think it will have to have its beginning in each separate State and have the backing of the entire medical profession.

The American Medical Association has written numerous editorials on this line during the past year and their column of Propaganda Reform keeps the profession posted as to what is going on the fraudulent labeling of packages.

The fraudulent labelling of Patent Medicine is under very good control by The Shirley Amendment of the Pure Food and Drug Act but this has absolutely nothing to do with the advertising in periodicals and newspapers and the great responsibility of the publishers must be appealed to.

The obstacles we have to confront are many: First, the Patent Medicine Associations who work through retail druggists; second, quack physicians who unfortunately have become members of County, State and The American Medical Association and lend their influence to Patent Medicine concerns; third, biased public opinion, testimonials from influential people, especially through publications of Christian organizations and many others.

The remedy for these things is first a determined fight on them by the entire profession with some law to revoke the license of physicians who take stock in these things, then a direct appeal to the publishers of the advertisements, showing them the evils which they help to bring about.

Discussion opened by

W. B. Hardman, M.D., Commerce, and
C. I. Bryans, M.D., Augusta.

8. Intensive Fattening—Some Results in the Abdomen.

W. W. Blackman, M.D., Atlanta.

Synopsis:

This will deal with: The role of fat in the treatment of Enteroptosis. Importance of restoring intra-abdominal pressure and visceral tone in these cases. Deposit of fat, development of abdominal muscles and artificial support as agents to functional cure. The Milk and Rest Cure, a method for creating fat rapidly. Case reports.

Discussion opened by

Sidney Walker, M.D., Dublin, and
C. H. Willis, M.D., Barnesville.

RECESS.

Wednesday Afternoon, 3:00.

9. The Importance of Careful Preliminary Examinations Before Surgical Operations.

E. C. Davis, M.D., Atlanta.

Synopsis:

This subject has been made impressive by the number of times after the usual routine examinations and the recognition of certain local lesions, an operation was performed and either a condition different or other pathological conditions were found of organs not suspected.

How many cases of abdominal pathology are subjected to X-ray diagnosis by an expert before operating? How many now fail to secure the benefits of careful laboratory investigations by one trained in these methods?

How many are brought to operating table before a skilled internist has passed his opinion as to

whether an operation is justified? Again, how often has an operation failed to relieve because of some latent pulmonary lesion accentuated by an anesthetic or the lowered resistance brought about by an operation. A quiescent Nephritis is aroused into activity by operations, and many patients are sacrificed by a failure to test the kidney functions before operations. Relying, as many do, upon the simpler tests for albumen and casts, and often these tests made by inexperienced persons not competent to render an opinion in so grave a condition as a human life.

Discussion opened by

Floyd W. McRae, M.D., Atlanta, and
H. M. Fullilove, M.D., Athens.

10. Review of Two Hundred Operations for the Acute Abdomen, With Fifteen Deaths.

R. M. Harbin, M.D., Rome.

Discussion opened by

W. F. Westmoreland, M.D., Atlanta, and
J. H. Downey, M.D., Gainesville.

11. Traumatic Rupture of Viscera Without External Wound.

F. K. Boland, M.D., Atlanta.

Synopsis:

Cases discussed are only those in the experience of author, including stomach, liver, kidney and small intestine. Possibility of these accidents should always be borne in mind. Brief reports of cases of rupture of stomach and liver, and three cases of ruptured kidney. Detailed report of case of ruptured jejunum, operation and recovery.

Discussion opened by

H. S. Monroe, M.D., Columbus, and
W. P. Nicholson, M.D., Atlanta.

12. Subparietal Injuries of the Intestines and Kidney; Report of Cases.

C. W. Roberts, M.D., Atlanta.

Synopsis:

As an acquisition from the day of medicine when our co-workers were laboring without the aid now rendered by careful investigation at the operating table and in autopsies, we have inherited a tendency to look at injuries where no external wound presents, from the surface viewpoint. Large gaping wounds are readily sent to the surgeon; serious, deep-seated injuries of viscera are constantly overlooked until terminal symptoms resulting from dangerous complications force the physician to recognize the need for surgical intervention.

Patients presenting themselves with a history of having received blows over the abdominal muscles or the Ileo-Costal region, followed by the appearance of the familiar symptoms of shock, pain and tenderness about the seat of injury, and then by the superaddition of marked rigidity of muscles overlying viscera thus subjected to the chance of injury, should be looked upon as cases for exploration. Unless these cases are carefully studied and quickly gotten into the hands of men qualified to render surgical aid, unsatisfactory results are bound to follow.

The subjective symptoms in a given case are not sufficient to base a diagnosis upon. Careful study, where the appearance of the patient would lead one not to suspect serious, deep-seated injury, will often disclose local signs that should cause the experienced physician to make a correct diagnosis in time to get effective treatment instituted.

Discussion opened by

Howard J. Williams, M.D., Macon, and
George T. Horne, M.D., Augusta.

13. Acidosis.

W. L. Funkhouser, M.D., Rome.

Discussion opened by

Ralston Lattimore, M.D., Savannah, and
D. H. DuPree, M.D., Athens.

14. Gastric and Duodenal Ulcers.

G. Pope Huguley, M.D., Geo. C. Mizell, M.D.,
Atlanta.

Synopsis:

The essayists discuss the prevalence, etiology, pathology, symptomatology and particularly the value of the methods employed in making diagnosis.

An attempt is made to reconcile the apparent difference of opinion as to the Medical or Surgical nature of the disease which exists today between the Internist and the Surgeon.

A series of cases is reported which is used to show the necessity of a correct understanding of the pathology and the appropriate treatment.

Discussion opened by

R. T. Dorsey, M.D., Atlanta, and
J. E. New, M.D., Dexter.

15. A Modification of Noguchi's Complement Fixation System.

Lee Howard, M.D., Savannah.

Synopsis:

1. Simplicity an advantage and aim in all laboratory methods.
2. Brief outline of Noguchi's system.
3. Comparison with other systems.
4. Prominent clinics using this system.
5. Demonstration of modification.
6. Summary of factors making system one of choice.

Discussion opened by

C. W. Gould, M.D., Atlanta, and
R. V. Lamar, M.D., Augusta.

16. Observations on the Preparations of Substances for Intraspinal Injection in Syphilis of the Central Nervous System.

Allen H. Bunce, M.D., Atlanta.

Synopsis:

A brief review of the literature on the different methods of preparing salvarsanized serum for intraspinal injection. Preparation of neosalvarsan for intraspinal injection. Mercurosalvarsan for intraspinal injection. Mercurosalvarsan for intraspinal injection.

serum. Preparation of substances for intracranial injections.

A short discussion of the merits and demerits of each method. Precautions to be taken in each.

A detailed account of the method I have been using in preparing the above for injection and also injecting them.

Precautions to be observed in preparing substances and also precautions in giving them.

Results.

17. Intraspinal Therapy in Syphilitic Disease of the Nervous System.

Lewis M. Gaines, M.D., Atlanta.

Synopsis:

Reasons for development of intraspinal therapy in the treatment of syphilitic disease of the nervous system. Development of the various methods which are now employed.

Methods of Administration: The Swift-Ellis method, the Byrnes method, the Ogilvie method, and other methods of more recent date. Technic.

Reactions: Disturbances of various kinds which are observed in the employment of intraspinal therapy.

Results: A discussion of the results obtained by the intraspinal method of treatment. Types of cases which are benefitted, and types which are not benefitted. The effect of treatment on the reactions of the blood and spinal fluid as contrasted with the clinical results.

Conclusions: The summary of conclusions which may be drawn, including the opinions of a number of observers in different parts of the country, which have been given to the author in the form of private communications.

18. Syphilis of the Nervous System and Its Treatment.

James N. Brawner, M.D., Atlanta.

Synopsis:

Our ideas concerning syphilis, as modified by the works of Schaudinn, Wassermann and Ehrlich. Syphilis more prevalent than generally supposed. Syphilitics frequently show negative Wassermann reaction. Parenchymatous syphilis of the brain and cord. Syphilis involving the ganglia of the sympathetic nervous system. Syphilis involving the glands of internal secretion. The treatment of the different forms of neurosyphilis.

Joint discussion of above three papers.

19.—Extra-Uterine Placental Growth.

A. J. Mooney, M.D., Statesboro.

Synopsis:

Decidual reaction supposed to be necessary to constitute condition of pregnancy. All pregnancies essentially extrauterine in the beginning. Report of a case of extrauterine pregnancy that was probably hydatidiform, six months after an incomplete tubal abortion. Operation revealed placenta about the size of an average 7½ months pregnancy with an attachment to the fimbriated extremity of left Fallopian tube. Placenta grafted on left side of pelvic wall with large placental vessels on surface. Operation very bloody. Large multilocular cyst of right ovary also present. Specimen of tissue examined by Dr. Bunce and pronounced placental tissue. Convalescence normal until third week after opera-

tion, then severe frontal headache (left) unequal pupils, irregular pulse and paralysis of right side. Death. No autopsy. Discussion of probability of metastatic sarcoma of brain.

20. A Case of Superfoetation.

J. C. Logan, M.D., Plains.

Joint discussion of above two papers.

RECESS.

Wednesday Evening, 8:30.

21. Discussion of Certain Borderline Problems—(a) Cholecystectomy vs. Clolecystostomy—with notes on technic and complications; (b) Treatment of Gastric and Duodenal Ulcer; (c) Relationship of the Thyroid to Exophthalmic Goiter.

G. W. Crile, M.D., Cleveland, Ohio.

General Discussion.

22. Early and Late Gastric Cancer as Shown by the X-Ray (Lantern Slide Demonstration.

Geo. M. Niles, M.D., Atlanta.

Synopsis:

A general survey of the prevalence of gastric cancer. Difficulty of differentiating early gastric cancer from gastric ulcer. Methods in present vogue. Technique in demonstrating organic changes in stomach by the X-ray. Discussion of various lantern slides shown, and interpretation of some. Relation of case histories, as shown in lantern slides.

23. Genito-Urinary Moving Pictures.

E. G. Ballenger, M.D.,

O. F. Elder, M.D., Atlanta.

24. Tumors and Cysts of the Gums and Jaws. (Lantern Slides.)

J. L. Campbell, M.D., Atlanta.

Synopsis:

Embryology of the teeth and gums.

Report of cases.

Classification of tumors and cysts.

Analysis of the cause and origin of tumors and cysts.

Treatment.

Thursday Morning, 9:30.

Report of House of Delegates.

25. Radium as a Therapeutic Agent for Cancer of the Cervix and Uterine Hemorrhages.

O. D. Hall, M.D., Atlanta.

26. Primary Heart Strain.

J. H. Honan, M.D., Augusta.

Synopsis:

Forms and manifestations of heartstrain.

Causes of forms physical or mental or both, whether due to one temporary over-taxing exertion or to gradual wearing and weakening of the vital organ through either physical or mental exertion. Conditions which make usual or normal activities become undue strain or dangerous. Significance of abnormal blood pressure in certain forms of heart strain.

Importance of history of the patient previous to manifestations.

The measure of the physician's responsibility and the importance of same.

Recognition of primary and kindred causes.

Definite and explicit instructions to patient.

Discussion opened by

O. H. Weaver, M.D., Macon, and

R. E. Foster, M.D., Carrollton.

27. Hypertension.

Stewart R. Roberts, M.D., Atlanta.

Synopsis:

Definition. Tension normal, increased or decreased. Distinction between hypertensive and hypotensive states. Distinction between hypertension and arteriosclerosis. Either may exist without the other, or they may accompany each other. Average blood pressures. Distinction between systolic, diastolic, and pulse pressures. Meaning of each. Relation of hypertension to disease and surgery. Interpretation of pressures. Hypertension as a diagnostic aid. The problem of treatment.

Discussion opened by

Thos. D. Coleman, M.D., Augusta, and

W. L. Davis, M.D., Albany.

28. Conservation of Hearing.

A. B. Mason, M.D., Waycross.

Synopsis:

The last census report shows that 44,519 deaf people are in the U. S.; there are 68 state asylums housing 11,346 inmates; 65 public schools with 2,024 enrolled; 18 private schools with 489 enrolled.

The number of "hard of hearing" is unknown. Alport estimates that there are 20,000,000 school children in the U. S. and that 1,000,000 have defective ears. 90 per centum of all cases of deafness is caused by diseases of the perceptive apparatus, most always chronic catarrh of the middle ear. Chronic otitis media results from repeated attacks of acute otitis media—of which ear ache is the most prominent symptom in the young. Ear ache is only a symptom and in the majority of cases a symptom of acute otitis media.

Tonsils and adenoids are a prominent predisposing cause of deafness in children; nasal obstructions, in adults.

The treatment of deafness has been a failure.

The only cure is prevention. (5) Prophylactic treatment consists in paying attention to ear aches and teaching the public to call a doctor to see the aching ear; the early and systematic removal of adenoids and operable tonsils in children; and the relief of nasal obstructions by surgery.

Discussion opened by

R. P. Cox, M.D., Rome, and

T. E. Bradley, Cordele.

29. Dietetic Treatment of Typhoid Fever.

J. E. Paullen, M.D., Atlanta.

Synopsis:

First, a consideration of the caloric needs of the patient with fever contrasted with the healthy individual.

Second, metabolism in typhoid fever.

Third, foods suited to these cases and their caloric value.

Fourth, methods of preparing and administering these foods.

Fifth, results after five years' experience with these methods.

Discussion opened by

E. E. Murphey, M.D., Augusta, and

W. W. Jarrell, M.D., Thomasville.

30. Prescription Writing.

W. R. Houston, M.D., Augusta.

Synopsis:

Teaching of therapeutics in the Medical Schools.

Proprietary Prescriptions.

Effective Methods of Using Drugs.

Illustrations.

Scope of the Individual Doctor's Pharmacopoeia.

Discussion opened by

A. D. Little, M.D., Thomasville, and

J. E. Paullen, M.D., Atlanta.

31. Treatment of Infantile Paralysis.

F. G. Hodgson, M.D., Atlanta.

Synopsis:

This paper deals with the treatment of this condition in the acute stage. Calling attention to some of newer methods used in the recent epidemic. It also deals with the methods used during the convalescent period to obtain the fullest return of power to the damaged muscles, and the prevention of deformity.

Operations should not be performed before two years has elapsed, for no one can determine how much muscle power is going to return under careful treatment without operation.

Discussion opened by

D. E. McMaster, M.D., Tennille, and

J. M. Thomas, M.D., Griffin.

32. Chronic Cystic Mastitis.

T. J. Charlton, M.D., Savannah.

Synopsis:

A disease giving rise to much confusion owing to its symptom complex made up from a number of different pathological processes progressive in nature and of changing character as clearly indicated by the many names given it in the attempt to define it.

Its relation to carcinoma.

Suggestion as to its cause—Its phases and its treatment both with and without operation.

Discussion opened by

F. D. Patterson, M.D., Cuthbert, and

F. M. Ridley, M.D., LaGrange.

33. Case of Epithelioma of the Posterior Pharyngeal Wall Cured by the Electro-Cautery.

Dunbar Roy, M.D., Atlanta.

Synopsis:

Case of a lady 27 years old who consulted the writer July 29, 1913. Family history negative. Present history: sore throat for several months and at present an ulcer of the size of a ten cent piece in the center of the pharynx. Syphilis suspected but all tests negative and had already been treated along this line by another laryngologist. Piece excised with report that the same was a mucous membrane epithelioma. Treated with complete excision by the use of the electric cautery. Healing uneventful which has remained in this condition now nearly four years. History of other cases of epithelioma of the pharyngeal wall.

Discussion opened by

T. H. Hall, M.D., Macon, and

R. M. Nelson, M.D., Atlanta.

34. Exophthalmic Goiter with Special Reference to Etiology and Roentgen Ray Treatment.

W. A. Cole, M.D., Savannah.

Discussion opened by

C. D. Cleghorn, M.D., Macon, and

J. S. Derr, M.D., Atlanta.

35. The Value of the X-Ray in Diagnosis of Pathology in the Stomach, Duodenum and Appendix.

J. S. Derr, M.D., Atlanta.

Synopsis:

In spite of the fact that a great deal has been written on this branch of Roentgenology and that this is being added to all the time, nevertheless the writer feels that this method of diagnosis is not being used to the extent, which its importance warrants.

Any contribution therefore, which might serve to stimulate interest in this line should not be ill received.

Advantage of the four shift serial method in gastric examination.

Discussion opened by

Geo. M. Niles, M.D., Atlanta, and

W. A. Cole, M.D., Savannah.

36. X-Ray Therapeutics: Report of Cases.

T. Byron King, M.D., Sandersville.

Synopsis:

Short resume of introduction of X-ray in medicine and its reception by the profession

Development of the X-ray.

Report of five or six cases treated, and results obtained.

Conclusions from these and numerous other cases as to present status of X-ray in therapeutics.

Discussion opened by

C. D. Cleghorn, M.D., Macon, and

T. G. Kershaw, M.D., Augusta.

President's Address at Noon.

RECESS.

Thursday Afternoon, 3:00.

37. The Treatment of the Neurasthenic.

William Drayton, Jr., M.D., Philadelphia.

General Discussion.

38. Excision of Hemorrhoids Under Local Anaesthesia.

W. S. Goldsmith, M.D., Atlanta.

Synopsis:

In selected cases the safety and simplicity of removing hemorrhoids, without subjecting patients to the hazard of general anesthesia. Many borderline cases with cardio-vascular-renal complications are relieved by this method of treatment.

There is no real necessity of division of the rectal sphincter. This idea has in the past prevented the development of methods other than submission to general anesthesia.

The injection of 95 per cent alcohol in the cellular tissue around the rectum as the last step in the operation, has in nine cases, markedly minimized post-operative pain.

Discussion opened by

C. W. Crane, M.D., Augusta, and

T. J. McArthur, M.D., Cordele.

39. Hernia of Bladder With Report of Unusual Case.

L. W. Williams, M.D., Savannah.

40. Prostatectomy.

M. L. Boyd, M.D., Atlanta.

Synopsis:

Because of the slowness with which it has been recognized that there is a great difference now from formerly in the mortality percentage and results of prostatectomy it seems advisable to call attention to some of the reasons for the change from poor to good results. These may be said to be—The difference in the care of such cases before and after operation, and the growing ability of surgeons to differentiate between obstructions to urination caused by prostatic hypertrophy, and those caused by contracture of the vesical orifice, fibrous prostatitis, and carcinoma of the prostate.

Discussion opened by

W. L. Champion, M.D., Atlanta, and

J. R. Robertson, M.D., Augusta.

41. A Demonstration of the Etiology of Blood in the Urine.

E. P. Merritt, M.D., Atlanta.

Synopsis:

There are reasons for bloody urine when we see such in our practice. We may find it very easy oftentimes to put our finger on the spot that is causing the red urine, and again we may find that to absolutely tell the origin or etiology is a puzzle.

42. Specialization, What Does It Mean?

W. B. Emery, M.D., Atlanta.

Discussion opened by

A. L. Fowler, M.D., Atlanta, and
George B. Smith, M.D., Rome.**43. Modern Artificial Infant Feeding—Scientific, Simple, Practical.**

W. A. Mulherin, M.D., Augusta.

Synopsis:

A reversion to simplicity—no violation of basic principles of infant feeding, due respect shown to knowledge obtained from analysis of mother's milk. Sufficient protein to cover protein requirements the keynote of success—simple dilution of whole cow's milk, one and one-half ounces per pound weight. Enough sugar added to cover caloric requirements—water sufficient to complete formula. Simple caloric scale applied. Caloric scale used as a general not absolute rule—individuality of baby to be studied. Rule applies to well, not sick babies. Longer intervals of feeding.

Discussion opened by

A. J. Waring, M.D., Savannah, and
W. N. Adkins, M.D., Atlanta.**44. Some Aspects of Renal Surgery.**

E. G. Jones, M.D., Atlanta.

Synopsis:

1. Attention is called to the number of individuals suffering from renal or ureteral stone who have been subjected to previous operations without relief of symptoms.

2. Discussion of the likelihood of ureteral and small renal stones passing spontaneously. Discussion of endoscopic efforts to induce passage of such stones.

3. Discussion of the present day value of colic, lumbar pain, vesical irritability and urinary findings in the diagnosis of lithiasis.

4. Advances of the last semi-decade in the operative treatment of the renal lithiasis.

5. Cases cited.

6. Illustrations.

Discussion opened by

W. S. Elkin, M.D., Atlanta, and
E. T. Coleman, M.D., Graymont.**45. The Direct Method of Laryngoscopy and Bronchoscopy for the Removal of Foreign Bodies in the Air Passages.**

J. T. Maxwell, M.D., Savannah.

Synopsis:

1. Introduction. (Short reference to the development of peroral endoscopy.)

2. Symptoms caused by foreign bodies in air passages.

3. Immediate and remote results of foreign bodies in the bronchial tree.

4. Direct Laryngoscopy and Bronchoscopy. (a) Instruments. (b) Preparation of patient. (c) Anaesthesia. (d) Introduction of instruments. (e) Mechanical features of removal of foreign bodies.

5. Report of cases.

46. Indirect, Direct and Suspension Laryngoscopy.

Cecil Stockard, M.D., Atlanta.

Synopsis:

Each method is taken up and described separately. The history and technic of each is given. The fields of usefulness and advantages of each in different fields are described and a plea is made for each and every up-to-date Laryngologist to practice both indirect and direct Laryngoscopy.

Joint discussion of above two papers.

47. The Relation of Focal Infections to Ocular Diseases.

E. S. Osborne, M.D., Savannah.

Discussion opened by

F. P. Calhoun, M.D., Atlanta, and
J. M. Smith, M.D., Valdosta.**48. Chronic Appendicitis in Young Children.**

Baxter Moore, M.D., Atlanta.

Synopsis:

Occurrence in young children especially under the age of seven years. Failure of proper diagnosis in such cases, due to insufficient history, not enough importance attached to abdominal pains in children and often no examination of the abdomen is made.

Assistance given by the X-ray in cases of chronic appendicitis and the ill effect of chronic appendicitis upon the development of the growing child.

Discussion opened by

R. C. Woodward, M.D., Adel, and
Gordon Burns, M.D., Douglas.**49. Southern Surgeons for Southern Soldiers.**

C. C. Harrold, M.D., Macon.

Synopsis:

If the U. S. goes to war with Germany we will put practically a million men into camps. Georgia's proportion will be over twenty thousand men. If we see real service in real war the French and English War Departments say it will take twenty surgeons to the thousand men. The Georgia Division certainly will also need a Base Hospital. Where are these four hundred doctors coming from to care for Georgia's men and boys? Where is the base hospital coming from? Who will be at its head?

Discussion opened by

Geo. H. Noble, M.D., Atlanta, and
W. C. Lyle, M.D., Augusta.

Friday Morning, 9:30.

50. Vaccines and Protein Sensitization and Desensitization in Diagnosis and Treatment.

St. J. B. Graham, M.D., Ellijay.

Discussion opened by

A. H. Bunce, M.D., Atlanta, and
Lee Howard, M.D., Savannah.

51. Vaccine Therapy With Especial Reference to Tuberculin.

Arch Elkin, M.D., Atlanta.

Synopsis:

The paper will present a short review of the work in vaccine therapy. There will be a discussion of immunity and the methods of obtaining the so-called immunization to specific disorders. The discussion will both praise and condemn certain forms of vaccines and certain methods. Lastly, there will be a full discussion on tuberculin immunity with the writer's views on the selection of cases, tuberculin and the method of administration.

Discussion opened by

Katherine Collins, M.D., Atlanta, and
E. C. Thrash, M.D., Atlanta.

52. One of the Early Skin Lesions of Pellagra.

E. E. Murphey, M.D., Augusta.

Discussion opened by

M. B. Hutchins, M.D., Atlanta, and
M. M. McCord, M.D., Rome.

53. Emergency Head Surgery.

C. E. Dowman, M.D., Atlanta.

Discussion opened by

W. D. Travis, M.D., Covington, and
W. W. Owens, M.D., Savannah.

54. Urinary Symptoms in the Female.

R. L. Rhodes, M.D., Augusta.

Synopsis:

Comments on the misleading nature of symptoms—that no accurate diagnosis can be made from other than by cystoscopic examination.
Case reports illustrating these facts.

Discussion opened by

L. C. Fischer, M.D., Atlanta, and
J. R. Burdette, M.D., Temmie.

55. Major Operations Under Local Anaesthesia.

W. A. Sehman, M.D., Atlanta.

Discussion opened by

W. W. Battey, Jr., M.D., Augusta, and
W. W. Massey, M.D., Moultrie.

56. Tonsilectomy in Adults—When Should It Be Done?

W. Lapat, M.D., Savannah.

Synopsis:

A paper which puts emphasis on tonsils which look small and harmless, and which cause a great deal of constitutional symptoms; they are the kind of a tonsil which the general practitioner and even the specialist often overlooks unless he takes special precautions and makes special methods of examinations; they are the kind of tonsils which for years have harbored small chronic peritonsillar abscesses which are never found unless a minute examination of the tonsil is undergone.

I have shown the method of this examination and have reported five cases.

57. The Advantages of Beck Method of Eneucleating Tonsils.

G. D. Ayer, M.D., Atlanta.

Synopsis:

First, I will take up subject of tonsil operations, beginning from early centuries up to date. I will mention the various instruments and means used for excision of tonsils.

Later: Eneucleation, different methods of enucleation, such as blunt, sharp dissection scissors, share, Sluder method. And in end I will fully describe the Beck method and display instruments.

I will also call attention to the necessity of preserving anatomical structures of the tonsillar fossa; mention post-operative hemorrhage cause of and means of preventing. Trauma, etc.

Joint discussion of above two papers.

58. Septic Infarcts of the Kidney.

George R. White, M.D., Savannah.

Synopsis:

The confusion of names renders advisable a name based on etiology. Source of infection usually unknown. Classification of pathological conditions. Symptoms usually simulate those of other diseases leading to erroneous diagnosis. The characteristic symptoms of the disease. The treatment based on the nature and extent of the lesions.

Conclusions.

Discussion opened by

Walter Norton, M.D., Savannah, and
A. D. Little, M.D., Thomasville.

59. Cirrhosis of the Liver—Operative Technique: Report of Three Cases.

L. Sage Hardin, M.D., Atlanta.

Synopsis:

After doing some omentopexies for cirrhosis of the liver with bad results, I undertook a new procedure to establish a greater collateral circulation in order to relieve the pressure upon the liver. The first of these operations was done October 1st, 1914, on a case where paracentesis had been done every ten days for six times.

A right rectus incision was made and a hard white, very small liver is revealed. The peritoneum from the upper angle of the incision onto the diaphragm was incised and reflected on each side. An attempt was made to sew these

scrolls of peritoneum to the upper surface of the liver, leaving the raw surface thereof, and that of the muscle to come into contact with the liver. The omentum was made raw and stiched between the liver and the diaphragm. In closing the abdominal wall, no sutures were put into the peritoneum, but the first closing sutures were placed on the anterior surface of the rectus muscle and fascia thus turning into the peritoneal cavity the raw edge of the peritoneum, fascia and muscle. Just below McBurney's point an Eck's fistula was produced, and to facilitate continuous drainage, a Penrose drain cover with a 25-F. catheter within was introduced. A permanent drainage of the peritoneal cavity was thus maintained for two weeks.

This patient convalesced rapidly and increased from 90 odd pounds to 156.

Similar report of two other cases.

Discussion opened by

Ralph Goss, M.D., Athens, and

R. C. Franklin, M.D., Swainsboro.

60. Repair and After Treatment of Vesico-Vaginal Fistula.

E. D. Highsmith, M.D., Atlanta.

Synopsis:

There is nothing specially original in regard to the operation itself in these cases. It is principally the after treatment. First, the vaginal mucosa is denuded around the fistula. If there is any contracting scar tissue in this area it must be thoroughly released in order that the edges may come together without tension on the sutures. I use shotted silk worm gut sutures through everything except the bladder mucosa. It is not absolutely necessary to have this closure water tight if the following instructions are followed:

After all the sutures have been shotted and the edges approximated I then put in about a number 24 French Catheter; strap it to the thigh in order to hold it firmly; and place the patient in the position that the photograph illustrates.

The patient can lay on her right or left shoulder very comfortable for two or three hours, then shift to the other shoulder. At the same time the anterior wall of the abdomen is flat on the bed.

When one considers the great vascular supply of the bladder you may feel assured that primary union will take place here almost as readily as any part of the body for it is kept free from such irritations as urine, etc.

Discussion opened by

J. N. Ellis, M.D., Atlanta, and

Hinton J. Eve, M.D., Augusta.

61. Pelvic Pathology as a Causing Factor of Hysteria in the Female.

Marion T. Benson, M.D., Atlanta.

Synopsis:

We have often heard the remark, "There is nothing the matter with her but Hysterics," a dose of Apomorphia is given, the patient is made very

sick and the case is passed on. In the opinion of Essayist, there is no greater mistake in the treatment of the female than the above. Every case of Hysteria in the female should be given a thorough Gynecological Examination. Preceding all treatment, there should be a very exact anatomical functional etiological diagnosis. The study should be extended to all pelvic organs, etc.

Discussion opened by

Jno. W. Mobley, M.D., Milledgeville, and

C. H. Richardson, Jr., M.D., Macon.

62. The Benefits, Limitations and Dangers of Artificial Pneumothorax.

E. C. Thrash, M.D., Atlanta.

Synopsis:

Purpose for which artificial pneumothorax is produced. Method of administering. Kind and quantity of gas used. Length of intervals between administration. How benefit is derived. Difficulty in producing collapse of lung where conditions are favorable. Where conditions are not favorable. What are unfavorable conditions? Harmful results. Gas oedema and gas emboli. Heart complications. Other dangers.

63. Preliminary Report on the Fundus Oculi in Cardio-vascular Renal Disease.

H. M. Lokey, M.D., Atlanta.

64. Report of a Case of Typhus.

H. W. Shaw, M.D., Augusta.

Discussion opened by

E. E. Murphey, M.D., Augusta, and

R. H. Stovall, M.D., Macon.

65. Cancer of the Rectum.

W. E. Person, M.D., Atlanta.

Synopsis:

1. Increase in the number of cancer cases. Percentage rectal cases.

2. Importance of early diagnosis. Frequency of error.

3. Clinical types and pathology.

Annular.

Papaloma or cauliflower tumor.

Ulcer.

Rapid infiltrating growth.

Hard flat tumor.

Symptology and diagnosis. Discomfort, tenesmus, character of hemorrhage, difficult defecation, diarrhoea, etc. Treatment, indications, choice of operation.

Perineal.

Sacral.

Abdominal.

Abdomino-perineal or abdomino-sacral.

Artificial anus.

THE JOURNAL

OF THE

Medical Association of Georgia

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CONTRIBUTIONS TYPEWRITTEN: Authors should have their contributions typewritten—double-space and with ample margin—before submitting them. The expense is small to the author—the satisfaction is great to the editor and printer. We cannot promise to return unused manuscript, but try to do so in every instance. Manuscript should not be rolled or folded.

ANONYMOUS CONTRIBUTIONS, whether for publication, for information, or in the way of criticism, are consigned to the wastebasket unread.

NEWS: Our readers are requested to send us items of news of a medical nature, also marked copies of local newspapers containing matters of interest to physicians. We shall be glad to know the name of the sender in every instance.

INFORMATION RELATING TO APPOINTMENTS IN THE MEDICAL OFFICERS' RESERVE CORPS OF THE ARMY.

Under the new regulations for the examination of candidates for appointment in the Medical Officers' Reserve Corps of the Army, the candidate is required: First, to submit his application in writing to the Surgeon-General of the Army; second, the application should be accompanied by two testimonials; and, third, the Personal History blank, properly filled in as directed thereon, after having the same certified to before a Notary Public.

The requirements for appointment are that the applicant be a citizen of the United States, between 22 and 55 years of age, a graduate of a reputable medical school legal-

ly authorized to confer the degree of doctor of medicine, he must have qualified to practice medicine in the state in which he resides, and be in the active practice of his profession.

The examination is physical and professional; the professional examination to be oral, except in case of failure, when it will be written. Such written examination will be in the following subjects:

1. Practice of medicine, including etiology, clinical description, pathology, and treatment of diseases.
2. Surgery—principles and practice.
3. Obstetrics and gynecology.
4. Hygiene—personal and general, especially as to the prophylaxis of the more prevalent epidemic diseases.

Specialists will be examined in their specialty.

Commissions are issued for a period of five years, at the end of which time officers may be recommissioned in the same or higher grades, that is, first lieutenant, captain, and major.

The Act of June 3, 1916, creating the Medical Officers' Reserve Corps, provides that in time of peace only those of the grade of first lieutenant may be ordered to active duty, and this with their own consent, but in time of war the services of officers of all grades are at the disposal of the Government.

PROGRAM FOR MEETING OF HOUSE OF DELEGATES.

Wednesday Morning, April 18th, 9 O'Clock,
City Hall.

Call to order by President.
Enrollment of Delegates.
Report of Committees.

Friday Morning, 9 O'Clock.

Call to order by President.
Report of Committees.
Report of Delegates to A. M. A.
Report of Council.
Unfinished Business.
New Business.

Liquid Petrolatum, Squibb

(Heavy Californian)

*Accepted by the Council on Pharmacy and
Chemistry, American Medical Association*

A pure, colorless, odorless and
tasteless mineral oil of the naph-
thene series of hydrocarbons.

SPECIALLY REFINED
FOR INTERNAL USE

**Liquid Petrolatum, Squibb, Heavy
(Californian),** is recommended to the
medical profession for preventing ab-
sorption of bacteria from the
intestine and for restoring nor-
mal bowel functioning.

It is the most viscous mineral oil
on the market; which viscosity is
true, i.e. natural, and is effective at
the temperature of the inside of the
intestine.

It may be administered in any quantities necessary. Its use does not
form a habit.

As it is not absorbed it is indicated to regulate the bowels during
pregnancy and lactation.

Sold only in one pint original bottles under the Squibb label and guarantee

Dr. Ferguson's concise handbook on In-
testinal Stasis and Constipation will be
sent free to any physician on request.

MEDICAL DEPARTMENT
E. R. SQUIBB & SONS, New York
Manufacturing Chemists to the Medical Profession since 1858

Chloretone

(Tri-chlor-tertiary-butyl alcohol)

An Exceptional Hypnotic

Especially indicated in the treatment of insomnia due to pain, as in tabes dorsalis, nervous excitement, acute mania, acute alcoholism, etc.

ADVANTAGES:

1. It induces profound, refreshing slumber.
2. It is a sedative to the cerebral, gastric and vomiting centers.
3. It is relatively non-toxic.
4. It does not depress the heart or respiratory center.
5. It does not disturb the digestive functions.
6. It produces no depressing after-effects.
7. It is not "habit-forming."

♦ ♦ ♦

As a well-known professor of medicine and therapeutics in a leading eastern medical college said some years ago:

"Chloretone is our closest approximation to that theoretical hypnotic toward which we have been led through a study of the working hypothesis of the sleep-phenomena."

CHLORETONE: Ounce vials.

CHLORETONE CAPSULES: 3-grain, bottles of 100 and 500.

CHLORETONE CAPSULES: 5-grain, bottles of 100 and 500.

Dose, 3 to 15 grains.

LITERATURE ON APPLICATION.

Home Offices and Laboratories,
Detroit, Michigan.

Parke, Davis & Co.

50 Years of Pharmaceutical Progress

